EXHIBIT 7

Exhibit A: Samsung's Infringement of United States Patent No. 8,510,407

US 8,510,407's Claim Limitation	Accused Instrumentality
1. A **client computing device** configured to access content over a network, the client computing device comprising:	DoDots currently does not take a position as to whether the preamble of claim 1 is limiting. Notwithstanding this position, Samsung executes, operates, uses, sales, offers for sale, markets, and has direct control over a client computing device configured to access content over a network. Specifically, the client computing devices include, but are not limited to the Samsung Galaxy Z Series Mobile Phones, Galaxy S Series Mobile Phones, Galaxy Note Series Mobile Phones, Galaxy A Series Mobile Phones, Galaxy M Series Mobile phones, and Galaxy Tab Series Tablets (collectively, "Accused Samsung Devices"). DoDots reserves the right to identify additional client computing devices to the extent additional devices are revealed during discovery. Examples of the Galaxy S Series Mobile Phones are seen in the image below:  Source: Dolcourt, et. al., *Here's every Galaxy S phone since 2010*, CNET Website (February 8, 2019) (accessed at (https://www.cnet.com/pictures/evolution-history-samsung-galaxy-phones/) Additionally, with each Accused Samsung Devices, Samsung launched and continues to operate, use, and sell an operating system customized from the Android OS (e.g. Android OS12, OS 11, QOS 10, Pie (9.0),Oreo (8.0), Nougat (7.0), Marshmallow (6.0), Lollipop (5.0), KitKat (4.4), Jellybean (4.3, 4.2 and 4.1),

	Ice Cream Sandwich (4.0), Honeycomb (3.0), Gingerbread (2.3), Froyo (2.2), Éclair (2.1), Donut (1.6) (collectively, "the Samsung OS") along with other software (e.g., installers, the Play Store app, and the Galaxy App Store app) that are pre-installed or updated on each Accused Samsung Device (the "Accused Samsung Software"). Samsung programmed, customized, preinstalled, and developed the Accused Samsung Software specifically for its Accused Samsung Devices and is directly responsible for and has direct control over the use of the Samsung OS along with other software In summary, the Accused Samsung Devices and Samsung OS along with other software (collectively, the "Accused Instrumentalities") constitute the **client computing device configured to access content over a network.** The Accused Instrumentalities, which are client computing devices, are **configured to access content over a network** as evidenced by the Samsung's specifications for the Samsung Galaxy S8, which promote the devices' connectivity abilities as shown below:

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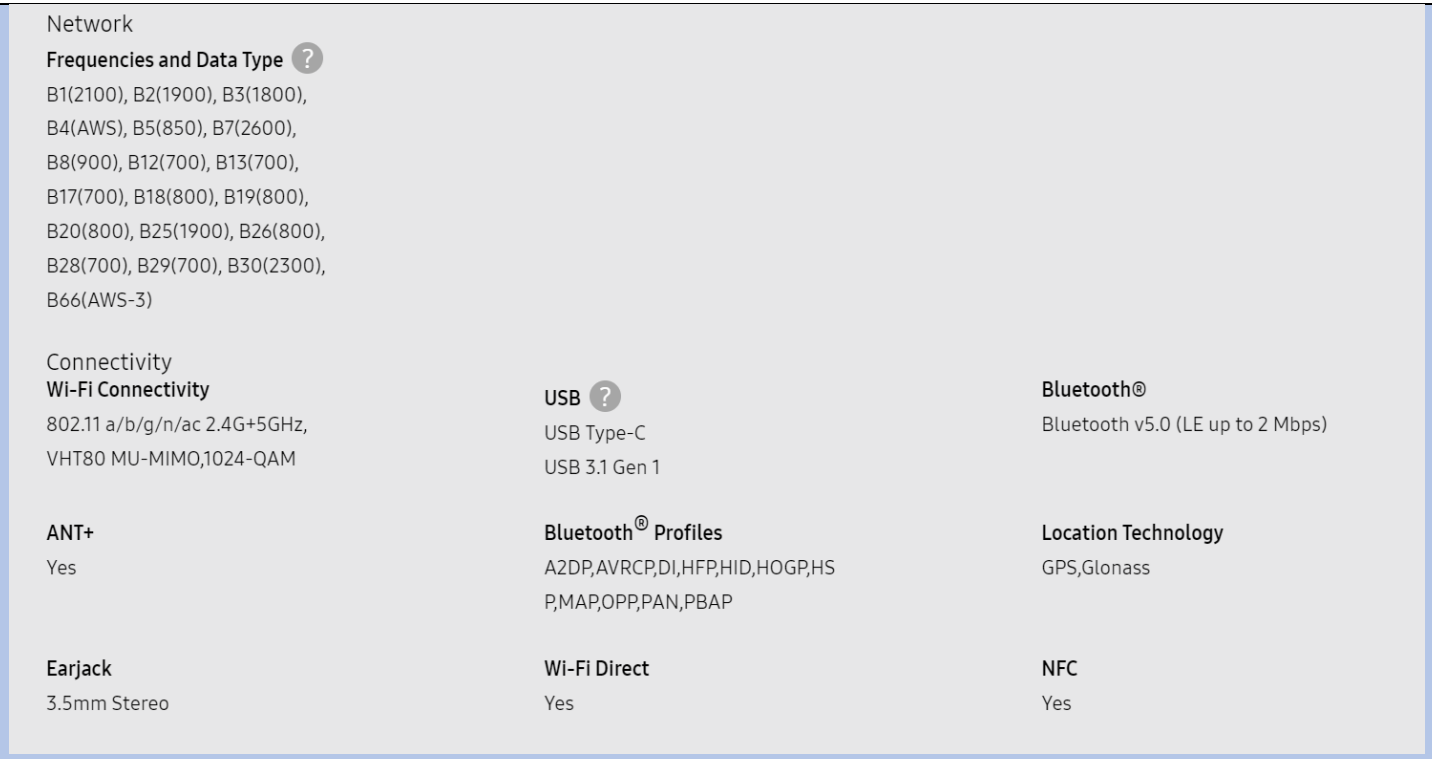

Network

Frequencies and Data Type

B1(2100), B2(1900), B3(1800), B4(AWS), B5(850), B7(2600), B8(900), B12(700), B13(700), B17(700), B18(800), B19(800), B20(800), B25(1900), B26(800), B28(700), B29(700), B30(2300), B66(AWS-3)

Connectivity

Wi-Fi Connectivity

802.11 a/b/g/n/ac 2.4G+5GHz, VHT80 MU-MIMO,1024-QAM

USB

USB Type-C
USB 3.1 Gen 1

Bluetooth®

Bluetooth v5.0 (LE up to 2 Mbps)

ANT+

Yes

Bluetooth® Profiles

A2DP,AVRCP,DI,HFP,HID,HOGP,HSP,MAP,OPP,PAN,PBAP

Location Technology

GPS,Glonass

Earjack

3.5mm Stereo

Wi-Fi Direct

Yes

NFC

Yes

Source: https://www.samsung.com/us/mobile/phones/galaxy-s/galaxy-s8-64gb--unlocked--sm-g950uzkaxaa/. Like the Samsung Galaxy S8, each of the other Accused Samsung Devices is also configured to **access content over a network**.

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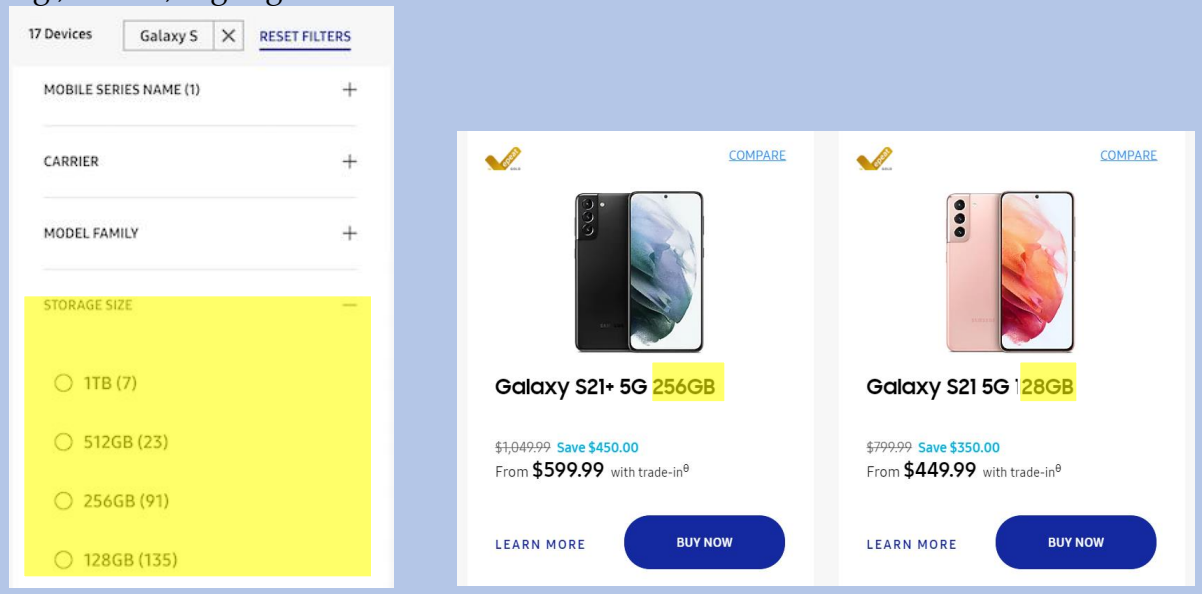
electronic storage configured to **store networked information monitor template** associated with a networked information monitor, the networked information monitor template having **therein a definition of a viewer graphical user interface having a frame** within which **time-varying content in a web browser-readable language may be presented on a display associated with the client computing device**, wherein	The Accused Instrumentalities have electronic storage configured to store networked information monitor template associated with a networked information monitor, the networked information monitor template having therein a definition of a viewer graphical user interface having a frame within which time-varying content in a web browser-readable language (XML) may be presented on a display associated with the client computing device, wherein the frame of the viewer graphical user interface lacks controls enabling a user to specify a network location (is not a browser, the app specifies web network location) at which content for the networked information monitor is available. Specifically, the **electronic storage** of the Accused Samsung Devices includes the flash memory, which can be seen on Samsung's website, which promotes the storage size of the Accused Samsung Devices, e.g., 128GB, highlight below:  Source: https://www.samsung.com/us/mobile/phones/galaxy-s/. Like the Samsung Galaxy S21, each of the other Accused Samsung Devices have flash memory that is electronic storage. Additionally, such

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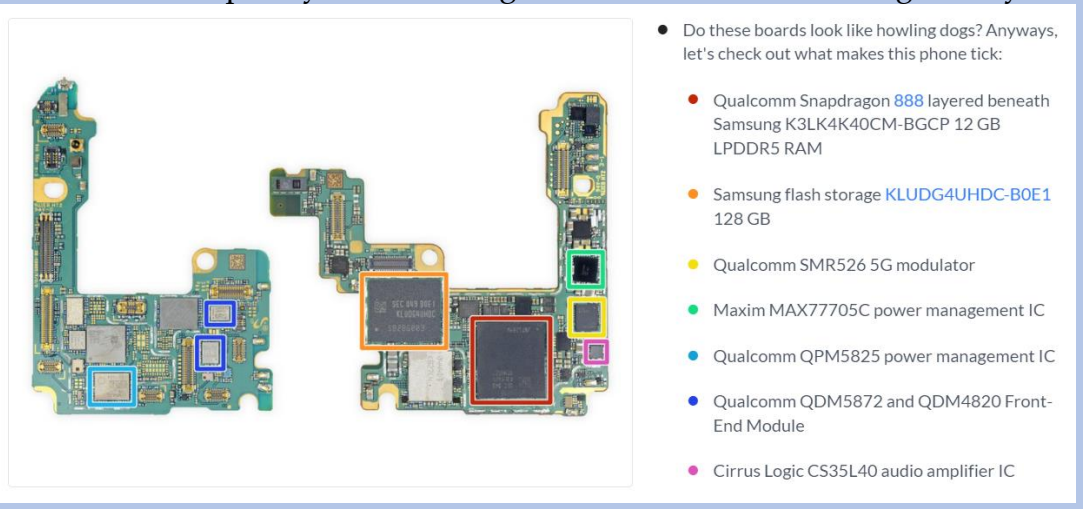
the frame of the viewer graphical user interface **lacks controls for enabling a user to specify a network location at which content for the networked information monitor is available**; and	electronic storage is shown, for example, by the following breakdown of the Samsung Galaxy S21 that shows flash storage:  Source: https://www.ifixit.com/Teardown/Samsung+Galaxy+S21+Ultra+Teardown /141188 And the electronic storage is **configured to store networked information monitor template associated with a networked information monitor** because it is able to store files containing NIM templates after downloading various applications. For example, Samsung configured the Accused Samsung Devices to download apps through the Galaxy Store (seen in the screen shot below), which comes pre-installed on Samsung phones.

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	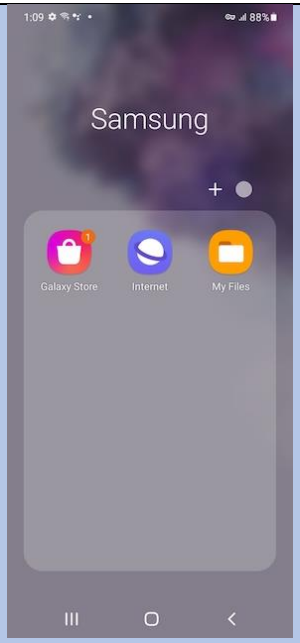 In the Galaxy Store app, a search for "weather" displays various weather apps. Scrolling down and the "Weather Channel for Samsung" app is visible, image below left, which can be clicked on for more details, below right. This provides an 'Install' button as seen below right.

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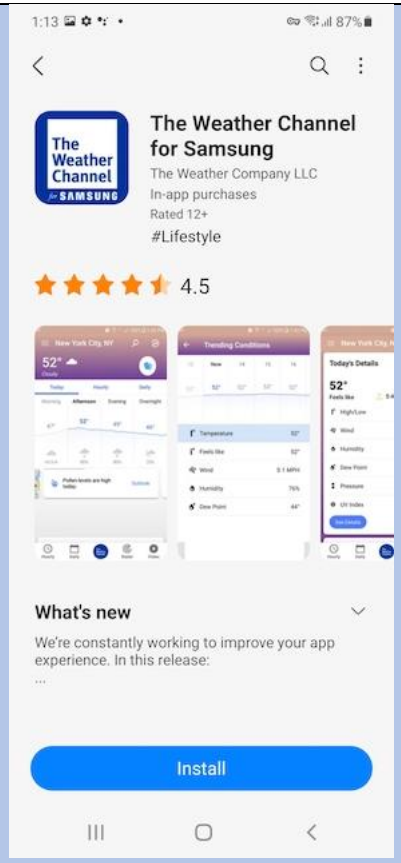

In this example, the "Weather Channel for Samsung" app is downloaded as an APK file. The APK files for the Samsung-Supported Apps includes **definition of a viewer graphical user interface having a frame**. In particular, the data structures in the APK are used to define a viewer graphical user interface (*e.g.*, a user interface presented on the screen) that may include menus, buttons, and other features.

The data structures in APK files for each Samsung-Supported App contain the files defining the visual presentation of the application, as suggested by Android developer guides, and seen in the excerpt below:

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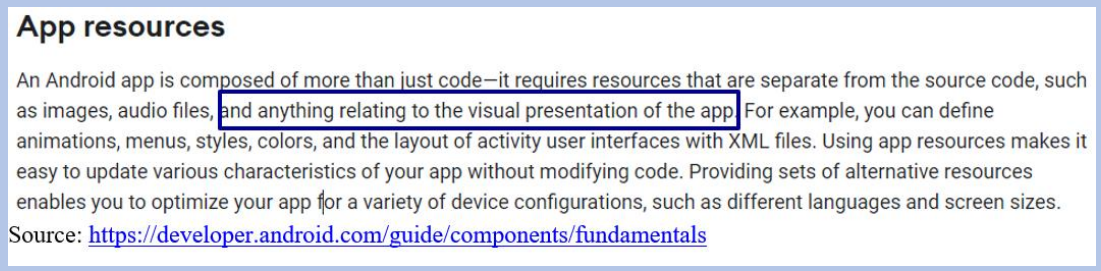

App resources

An Android app is composed of more than just code—it requires resources that are separate from the source code, such as images, audio files, and anything relating to the visual presentation of the app. For example, you can define animations, menus, styles, colors, and the layout of activity user interfaces with XML files. Using app resources makes it easy to update various characteristics of your app without modifying code. Providing sets of alternative resources enables you to optimize your app for a variety of device configurations, such as different languages and screen sizes.

Source: https://developer.android.com/guide/components/fundamentals

Indeed, in Android development the UI is typically built using "Layouts" which define 'Views" which are defined in XML and generally create elements the user can view and/or interact with.

- "A layout defines the structure for a user interface in your app, such as in an activity. All elements in the layout are built using a hierarchy of View and ViewGroup objects. A View usually draws something the user can see and interact with."

And, according to the Android documentation these elements are created with XML:

- *"Declare UI elements in **XML.** Android provides a straightforward **XML** vocabulary that corresponds to the View classes and subclasses, such as those for widgets and layouts.*

  You can also use Android Studio's Layout Editor to build your XML layout using a drag-and-drop interface."
- *"Declaring your UI in XML allows you to separate the presentation of your app from the code that controls its behavior. Using XML files also makes it easy to provide different layouts for different screen sizes and orientations"*
- *"The Android framework gives you the flexibility to use either or both of these methods to build your app's UI. For example, you can declare your app's default layouts in XML, and then modify the layout at runtime."*

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- *"Write the XML. Using Android's XML vocabulary, you can quickly design UI layouts and the screen elements they contain, in the same way you create web pages in HTML"*

This graphical user interface defined by the NIM Template may be used to display **time-varying content in a web browser-readable language on a display associated with the client computing device** within the**.** For example, upon installation of the "Weather Channel for Samsung" app, a splash screen can be seen with the message 'Still waiting for server…' as it loads data to display.

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Upon loading this data, the screen shows the time-varying content (*e.g., the* numeric display of time-varying temperature, or graphic display of time-varying weather conditions) for the weather based on the current date and for the location of the phone, as shown below.

Furthermore, the time-varying content is displayed in a frame of the viewer graphical user interface that **lacks controls for enabling a user to specify a network location at which content for the networked**

	information monitor is available. Put another way, a user is unable to designate from which server the weather information should be downloaded. Furthermore on information and belief, code, which is not publicly available, on the Accused Instrumentalities and apps will demonstrate that the networked information monitor template having therein a definition of a viewer graphical user interface having a frame within which time-varying content in a web browser-readable language may be presented on a display associated with the client computing device, wherein the frame of the viewer graphical user interface lacks controls for enabling a user to specify a network location at which content for the networked information monitor is available. Additionally, on information and belief, all variations of the Accused Instrumentalities operate in the same infringing manner.
one or more processors configured to execute one or more computer program modules, the one or more computer program modules being configured to access the networked information monitor defined by the networked information	The Accused Samsung Devices have one or more processors configured to execute one or more computer program modules, the one or more computer program modules being configured to access the networked information monitor defined by the networked information monitor template. Specifically, each of the Accused Samsung Devices uses the Samsung Exynos or Qualcomm Snapdragon processors that are **processors configured to execute one or more program modules to access the networked information monitor, defined by the networked information monitor template**. The Samsung web page details the Samsung Exynos processors used in the Accused Samsung Devices.

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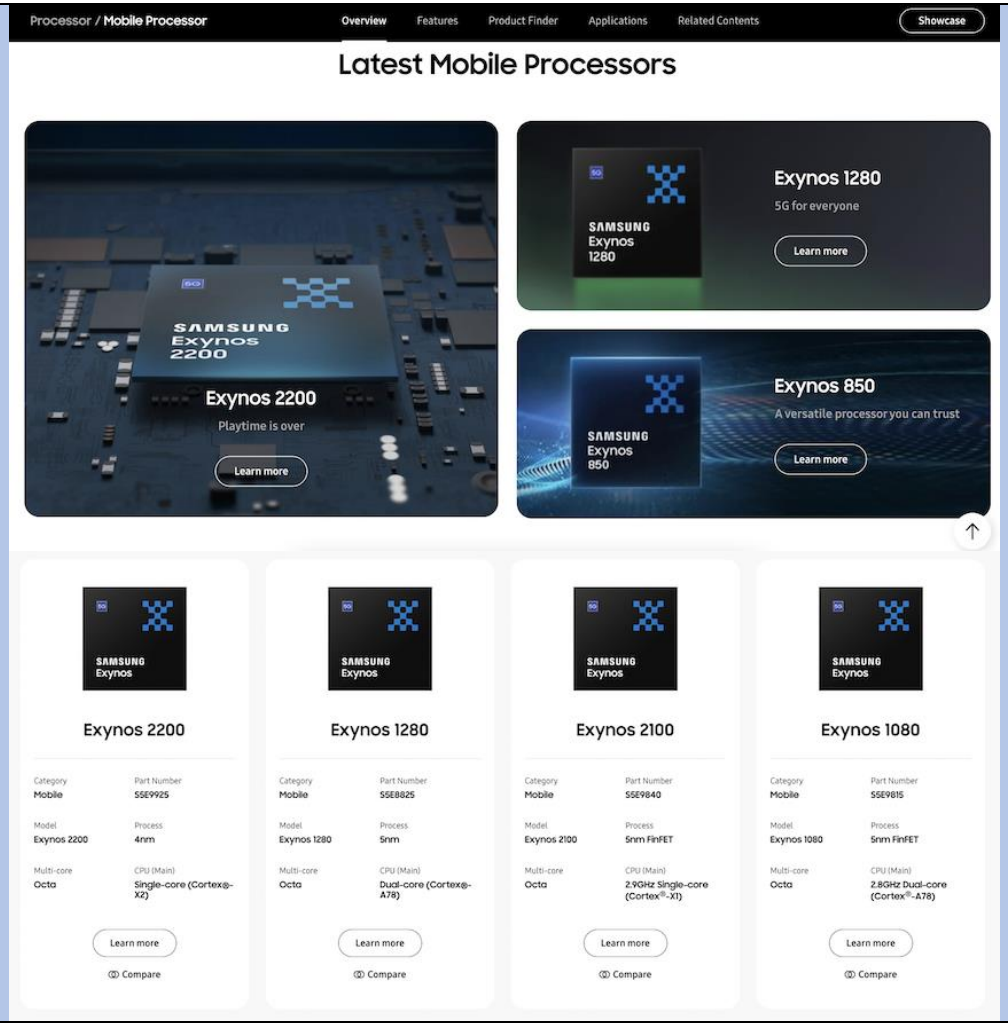
monitor template, wherein accessing the networked information monitor defined by the networked information monitor template results in:	

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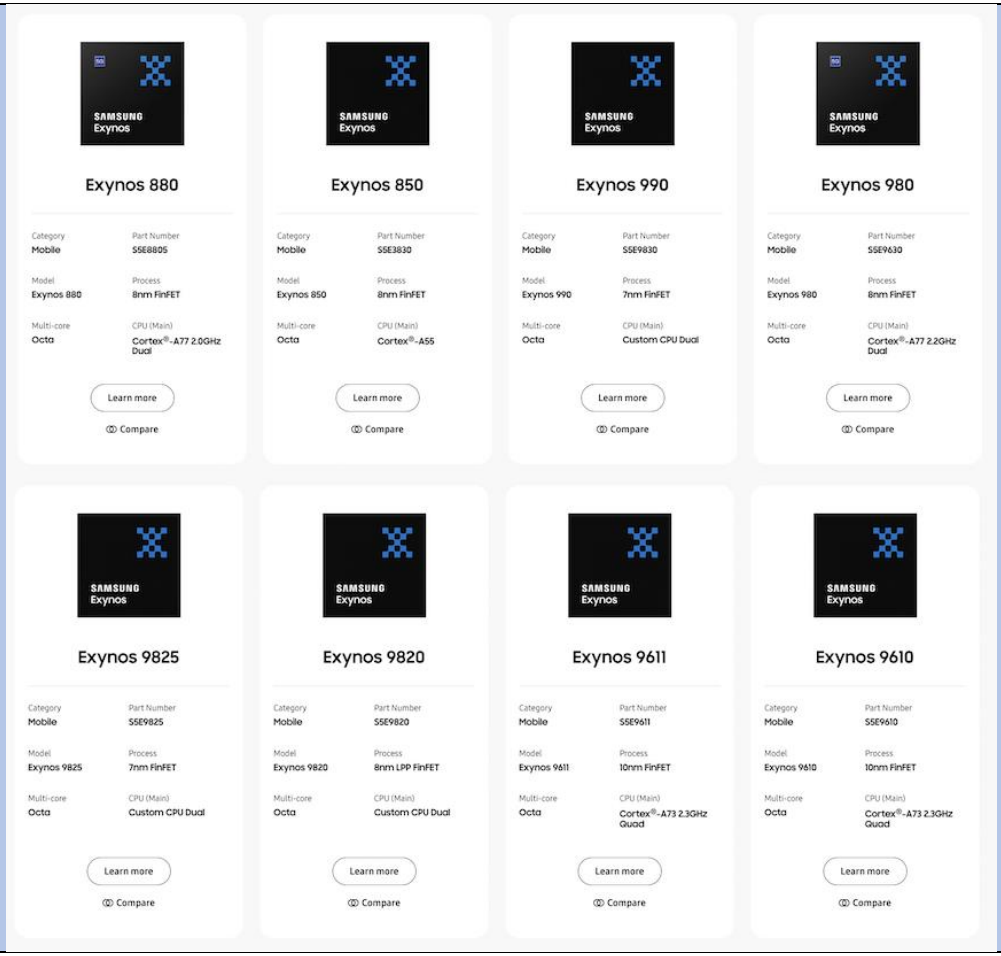

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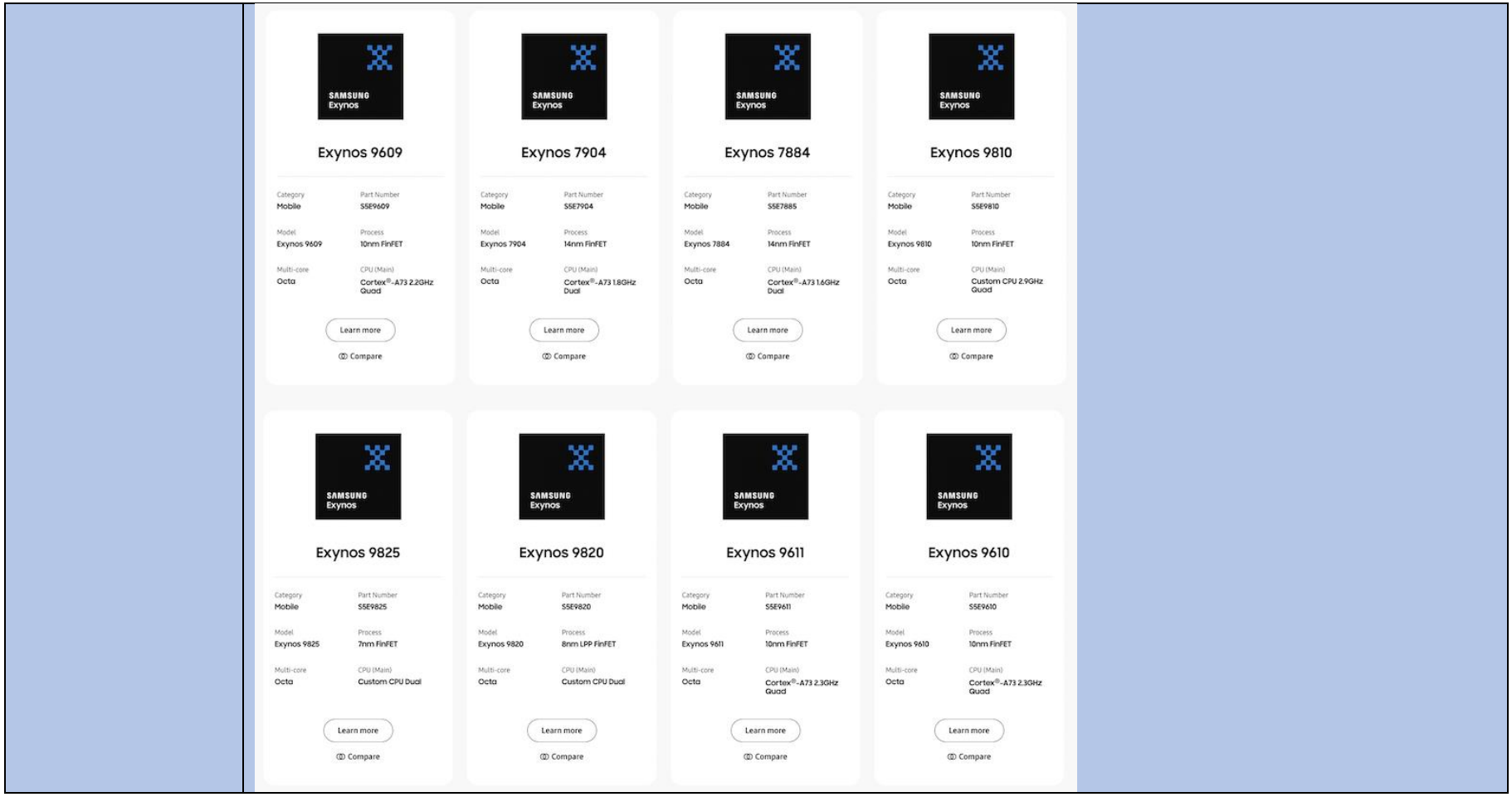

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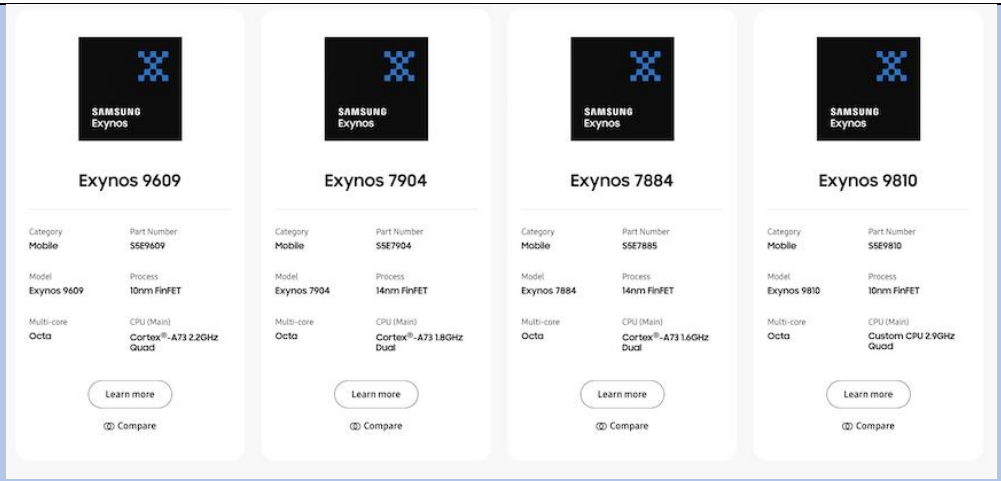

References:

- https://en.wikipedia.org/wiki/Samsung_Galaxy_S20
- https://semiconductor.samsung.com/processor/mobile-processor/
- https://android.fandom.com/wiki/List_of_Samsung_Galaxy_devices
- https://en.wikipedia.org/wiki/Comparison_of_Samsung_Galaxy_S_smartphones

Evidence that the processers are **configured to execute one or more program modules** (i.e., Samsung OS along with other software) **to access the networked information monitor, defined by the networked information monitor template** is shown from the fact that all processors can run any software installed on the Accused Samsung Device after installation.

Furthermore, on information and belief, code, which is not publicly available, on the Accused Instrumentalities and apps will demonstrate that there are "one or more processors configured to execute one or more computer program modules, the one or more computer program modules being configured to access the networked information monitor defined by the networked information monitor template."

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	Additionally, on information and belief, all variations of the Accused Instrumentalities operate in the same infringing manner.
transmission, over a network to a web server at a network location, of a content request for content to be displayed within the frame of the viewer graphical user interface defined by the networked information monitor template;	The Accused Instrumentalities transmit, over a network to a web server at a network location, a content request for content to be displayed within the frame of the viewer graphical user interface defined by the networked information monitor template. For example, using an Android app created through Android Studio, Android's development environment, a URL embedded in an exemplary NIM Template. Specifically, fennetic.net/irc/finney.org/~hal/home.html Upon running the NIM one of the Accused Instrumentalities, the following content was displayed

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Display of this information confirms that the Accused Instrumentalities **transmit over a network to a web server at a network location, of a content request for content to be displayed within the frame of the viewer graphical user interface defined by the networked information monitor template.**

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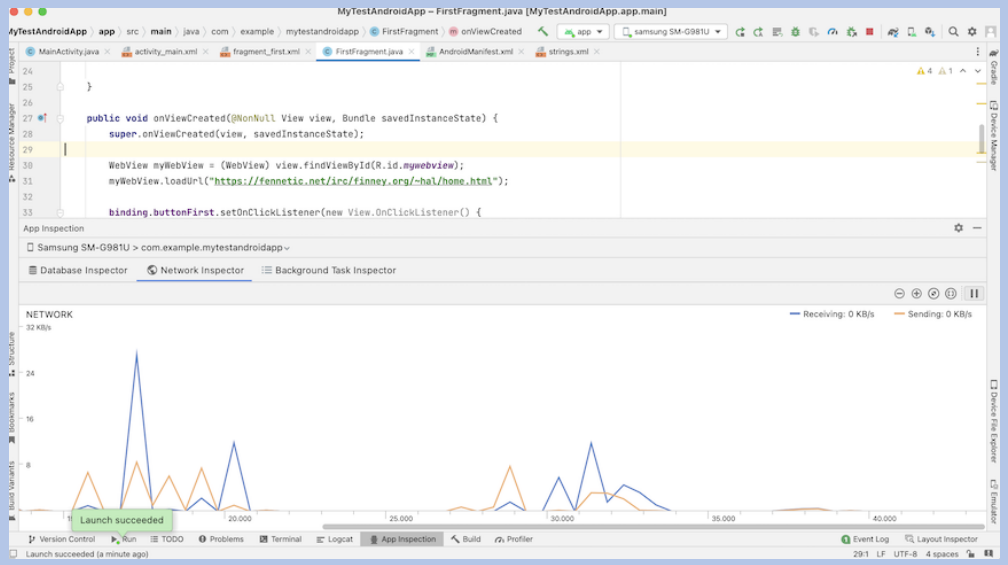
In fact, monitoring the network traffic during the load of this content reveals that a network request was initiated and content was received as shown in the image below of the 'Network Inspector' analysis tool which is part of the Android Studio development suite. This monitoring shows that the Accused Samsung Devices **transmit over a network to a web server at a network location** a **content request.** And the display of the App shows that that content requests includes a request for **content to be displayed within the frame of the viewer graphical user interface defined by the networked information monitor template.**



Furthermore, the above network activity confirms that the content request was exchanged over a network server and its display on the Accused Instrumentalities confirms that the content can be displayed within **the frame of the viewer graphical user interface defined by the networked information monitor template**. And, the content below is the HTML data on the server that was transferred over the network to display the view shown in the 'Hal Finney Home Page' image above.

```
<http>
<head><TITLE>Hal Finney Home Page</TITLE></head>
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	<body> <H1>Hal Finney Home Page</H1> <IMG SRC="hal1.gif" align=center width=135 height=181> <p> <H2>Bio</H2> Born May 4, 1956. BS Engineering 1979, California Institue of Technology. Married, two children. <hr> <H2>PGP</H2> I was one of the original programmers on PGP version 2.0, working directly with Philip Zimmermann, author of the program. <p> Today, I work for <A href="www.pgp.com">PGP Corporation.</A>, developing crypto library components. <H2>RPOW</H2> I recently created the RPOW.NET server for accumulating and exchanging Reusable Proofs of Work. See that link for more information on the concepts behind this unusual service. <H2>SSL Challenge</H2> In August, 1995 I submitted a challenge to the cryptographic community to try breaking a sample web browsing session run in secure mode using Netscape's Secure Socket Layer (SSL) protocol. Both <A href="sslchallong.html">long</A> and <A href="sslchal.html">short</A> versions of the challenge document are available. The challenge was broken in short order. Look for more information on the <A href="/web/20130624115154/http://pauillac.inria.fr/~doligez/ssl/announce.txt"> SSL Challenge Break</A>. <P> <H2>Old Essays</H2> These are some essays I wrote for publication on the Cypherpunks list back in the early to mid 1990s. <H3>PGP</H3> Phil Zimmermann's public-key encryption program PGP has excited tremendous interest in cryptography. <DL> <DT> <A HREF="stealth_pgp.html"> Truly Stealthy PGP</A> <DD> For some applications PGP may stick out like a sore thumb. A variant known as "Stealth PGP" makes it less conspicuous, but the "stealthiness" is less than perfect. This article analyzes what would be necessary to make it truly stealthy. <DT> <A HREF="pgp_math_lib.html"> PGP Math Library Docs</A> <DD> Documentation on how the math functions in PGP's math library work. <DT> <A HREF="web_of_trust.html"> PGP Web of Trust</A> <DD> PGP's "web of trust" is the source of many misconceptions. Will this model be adequate for large-scale usage on the global nets? </DL> <H3>Digital Cash</H3> <DL> <DT> <A HREF="chcash2.html"> Chaum's Cash System</A>

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	<DD> This writeup attempts to describe the mathematics behind the basic Digital Cash system from David Chaum et al. How can honest users of the system keep their anonymity while cheaters who double-spend are exposed? This essay has been widely republished on the net. <DT> <A HREF="dig_cash_priv.html"> Digital Cash and Privacy</A> <DD> Digital cash could play an important role in protecting privacy in a world where more and more transactions will take place electronically. <DT> <A HREF="anti_observers.html"> Problems with Observers</A> <DD> Recent digital cash proposals from David Chaum and affiliated researchers include the notion of an "observer" chip which resides in the digital "wallet" and makes sure that no double-spending occurs. This essay criticizes this approach. <DT> <A HREF="beauty_ecash.html"> The Beauty of Ecash</A> <DD> A somewhat facetious essay about the joy of collecting electronic cash. Admire the unique beauty of each digital banknote! <DT> <A HREF="netcash_crit.html"> Criticism of NetCash</A> <DD> A group with USC/ISI has produced a digital cash proposal called NetCash. I describe some fundamental problems with their system. <DT> <A HREF="chaum_patents.html"> Blind Signature Patents</A> <DD> Digital cash is heavily patented. These are the results of a patent search on the blind signatures which are the foundation of digital cash algorithms. </DL> <H3>Anonymous Remailers</H3> At one time I operated two anonymous remailers. (For more information and a list of remailers look <A HREF="/web/20130624115154/http://www.cs.berkeley.edu/~raph/remailer-list.html"> here</A>.) These articles discuss some technical and social issues raised by these controversial services.<P> <DL> <DT> <A HREF="why_rem1.html"> Why Remailers I</A> <DD> One of the first articles I wrote explaining how I became interested in cryptography in general and remailers in particular. What is the role of anonymous remailers in a society which uses cryptography to protect privacy? <DT> <A HREF="why_rem2.html"> Why Remailers II</A> <DD> A more wide-ranging discussion of the roles remailers can play. <DT> <A HREF="pay_remail.html">

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	For-Pay Remailers</A> <DD> What if remailers charged per message? How much should they charge, and how would it affect ease of use? Includes a <A HREF="pay_remail.html#payment"> discussion of four different Internet payment systems</A> and an evaluation of their suitability for this purpose. <DT> <A HREF="remailer_abuse.html"> Remailer Abuse Prevention</A> <DD> How can abuse of remailers be dealt with when the abusers themselves are anonymous to the remailer operators? The "credential" notion of David Chaum applies to this situation. Plus, the existing "Magic Money" code could be easily adapted to this purpose. <DT> <A HREF="is_a_person.html"> Is-A-Person Credentials</A> <DD> Not directly related to remailers, but this is a further description of the notion of "credentials", similar to my suggestion above for remailer abuse prevention. </DL> <H3>Politics</H3> Unlike many early Cypherpunks, I never viewed cryptography as a gateway to a libertarian society. My goals are more modest but still worthwhile, I hope. <DL> <DT> <A HREF="pol_v_tech.html"> Politics vs Technology</A> <DD> Will cryptographic technology by itself be enough to bring about changes sufficient to ensure privacy? Or will political struggle continue to be necessary? <DT> <A HREF="steg_no_soln.html"> Steganography no Solution</A> <DD> Steganography is the art of hiding messages in innocuous data. Even in the face of harsh crackdowns it should still be possible to send messages using this technology. Does that imply that restrictions on cryptography are doomed? <DT> <A HREF="liberty_demo.html"> Liberty and Democracy</A> <DD> A short note describing the fundamental reason why democracy makes sense. </DL> </body> </http>

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	Furthermore, on information and belief, code, which is not publicly available, on the Accused Instrumentalities and apps will demonstrate transmission, over a network to a web server at a network location, of a content request for content to be displayed within the frame of the viewer graphical user interface defined by the networked information monitor template. Additionally, on information and belief, all variations of the Accused Instrumentalities operate in the same infringing manner.
reception, over the network from the web server at the network location, of content transmitted from the web server in response to the content request, the content being time-varying;	The Accused Instrumentalities receive, over the network from the web server at the network location, content transmitted from the web server in response to the content request, the content being time-varying. Note that upon first use of the Weather Channel App for Samsung, the device prompts you for permission to get location info so it can provide up-to-date weather for your current location. The message below shows the prompt provided if the user settings are not set appropriately. The image on the right displays the settings for this app.

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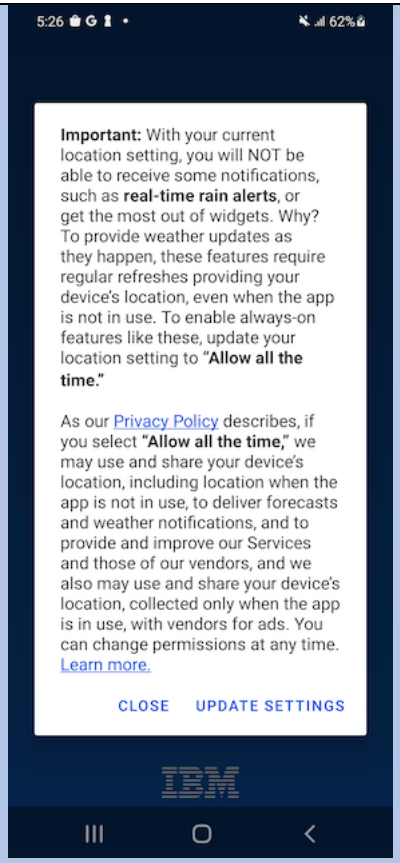

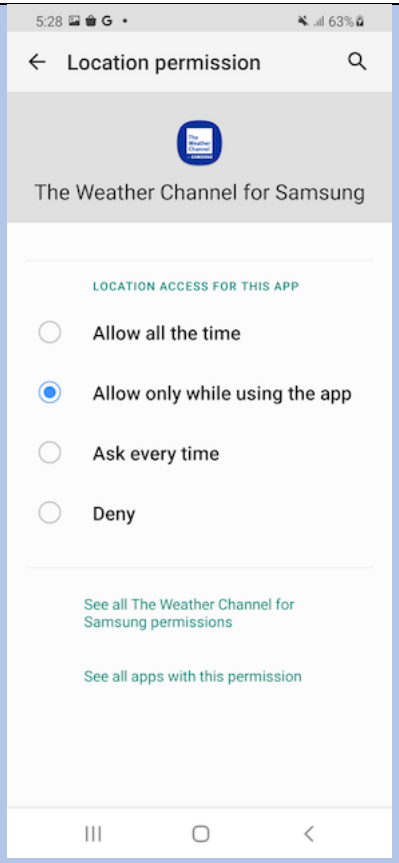

And with these settings, there is evidence of **reception over the network from the web server**, **of content transmitted from the web server** below. In particluar the image below shows how the app automatically determines the user location and displays time-varying weather content for the current location, as shown in the two screenshots below. Further on infromation and belief, that web server is located at the network location.

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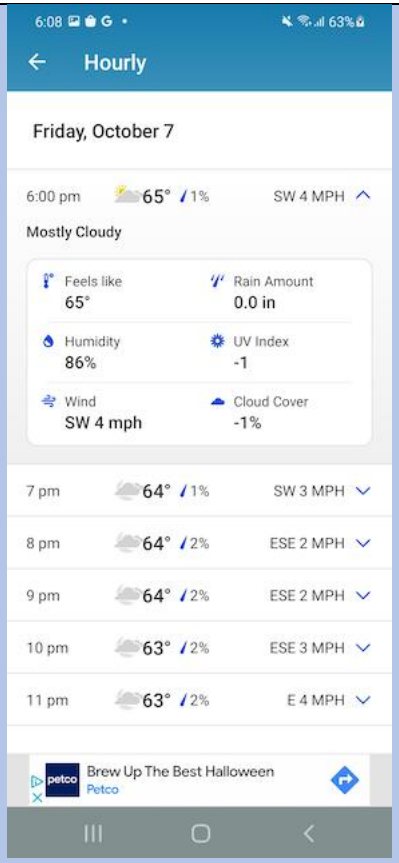

Furthermore, on information and belief, code, which is not publicly available, on the Accused Instrumentalities and apps will demonstrate reception, over the network from the web server at the network location, of content transmitted from the web server in response to the content request, the content being time-varying. Additionally, on information and belief, all variations of the Accused Instrumentalities operate in the same infringing manner.

presentation, on the display, of the viewer graphical user interface defined by the networked information monitor template outside of and separate from any graphical user interface of any other application; and	The Accused Instrumentalities present, on the display, of the viewer graphical user interface defined by the networked information monitor template outside of and separate from any graphical user interface of any other application. On information and belief, the image below left shows the Weather Channel App for Samsung in a full sized frame, while the image on the right is a widget that is displayed in a smaller frame with a transparent background. That display evinces the "**presentation, on the display**." Furthermore, this display of information, on the left, demonstrates the ability to present in formation on the visual graphical user interface "**outside of and separate from any graphical user interface of any other application."** Notably, the information in both examples are separate from the GUI of any other app being run by the accused Samsung device. This demonstrates that the frame is **outside of and separate from any graphical user interface of any other application.**

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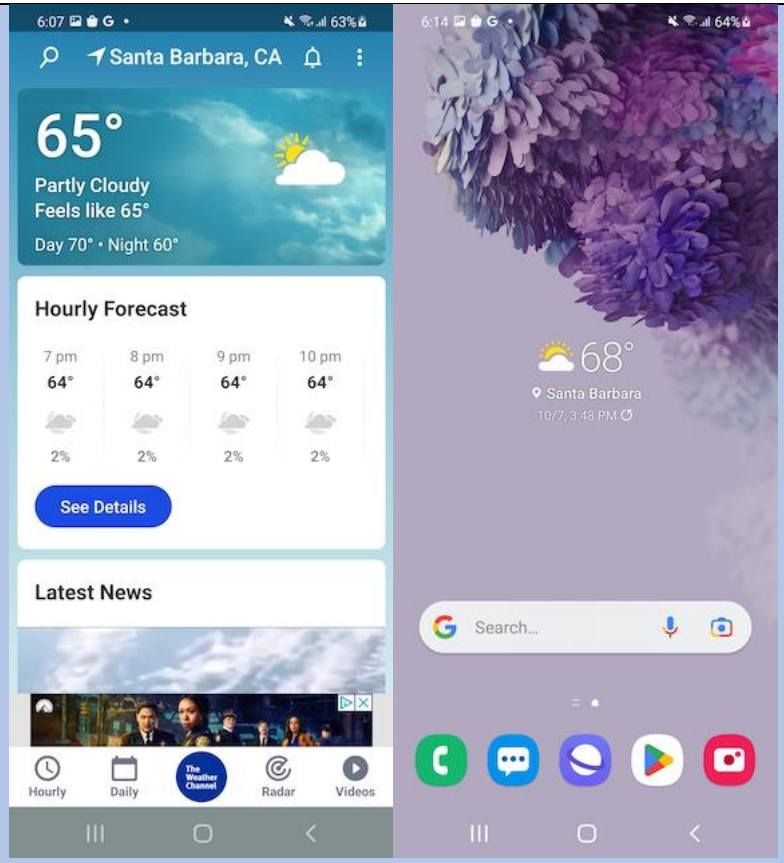

Furthermore, on information and belief, code, which is not publicly available, on the Accused Instrumentalities and apps will demonstrate reception presentation, on the display, of the viewer graphical user interface defined by the networked information monitor template outside of and separate from any graphical user interface of any other application. Additionally, on information and belief, all variations of the Accused Instrumentalities operate in the same infringing manner.

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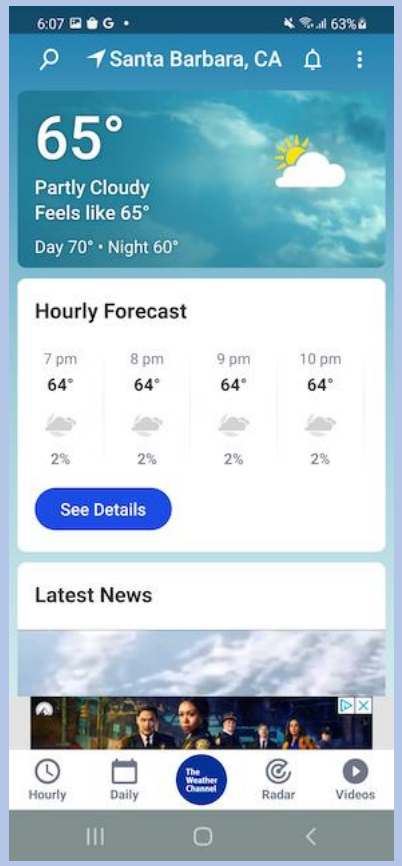
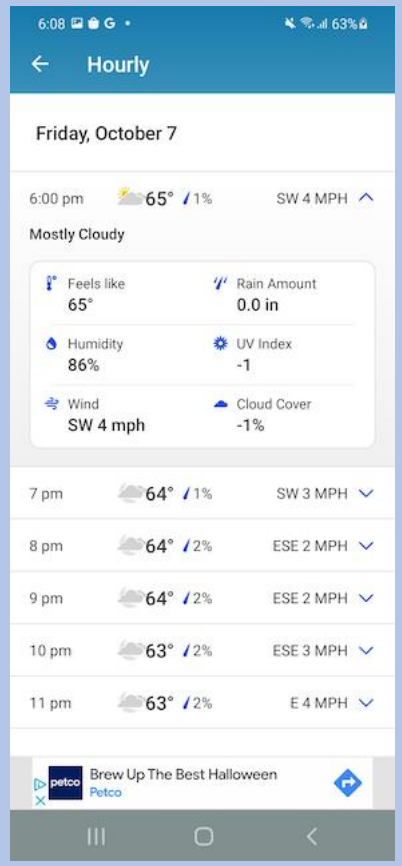
presentation, on the display within the frame of the viewer graphical user interface defined by the networked information monitor, of the time-varying content received from the web server.	In the example below, the Accused Samsung Devices **present on the display within the frame of the viewer graphical user interface defined by the networked information monitor, the time-varying content received from the web server**. In particular, the weather data received from the network is shown within the app, as seen below. The exemplary **time-varying content** is the weather data.   Furthermore, on information and belief, code, which is not publicly available, on the Accused Instrumentalities and apps will demonstrate presentation, on the display within the frame of the viewer

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	graphical user interface defined by the networked information monitor, of the time-varying content received from the web server. Additionally, on information and belief, all variations of the Accused Instrumentalities operate in the same infringing manner.
2. The method of claim 1, further comprising, responsive to reception **of one or more elements included in the received time-varying content**, modifying a feature of said viewer graphical user interface defined by the networked information monitor template in accordance with a modification corresponding to the received one or more elements.	Claim 2 contains a typographical error. Based on the totality of intrinsic evidence, "the method" actually refers to the "**client computing device"** of Claim 1. Indeed, the prosecution history of the '407 patent demonstrates that the allowed claims recited "**client computing device."** For the reasons stated above, the Accused Instrumentalities meet the limitations of Claim 1. Moreover, the Accused Instrumentalities further comprise a response to reception of one or more elements included in the received time-varying content, modifying a feature of said viewer graphical user interface defined by the networked information monitor template in accordance with a modification corresponding to the received one or more elements. In the weather app example below, time-varying content is received and the graphical user interface modified to be viewed. The content which is of web browser-readable language is then presented on the display of the client computing device. Notice the display of a special clickable alert due to a hazardous surf warning. The addition of a new element with which the user can interact is a modification of the app's graphical user interface. Within this example, the **one or more elements included in the received time-varying content** is the data concerning the hazardous surf warning. And, evidence of the **modification to said viewer graphical user interface defined by the networked information monitor template in accordance with a modification corresponding to the received one or more elements** is shown by the ability to scroll downwards through the application to view additional weather data, including hourly data, as shown below. Notably, the display area for the **one or more elements** is seen as one scrolls down the page, demonstrating that the GUI is being modified based on the reception of additional elements (e.g., weather information). Because the GUI is extended to display all of the content, on information and belief, this demonstrates that the GUI is being modified.

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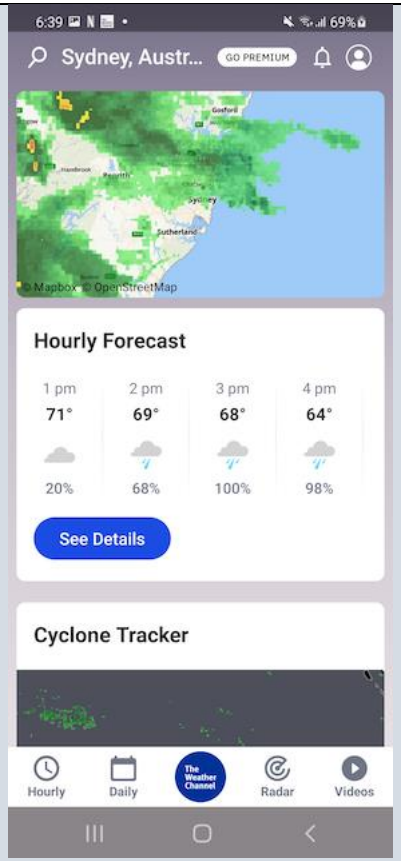

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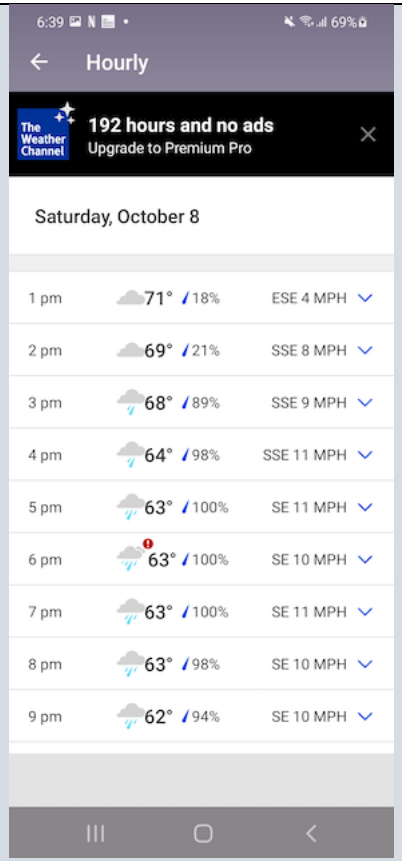

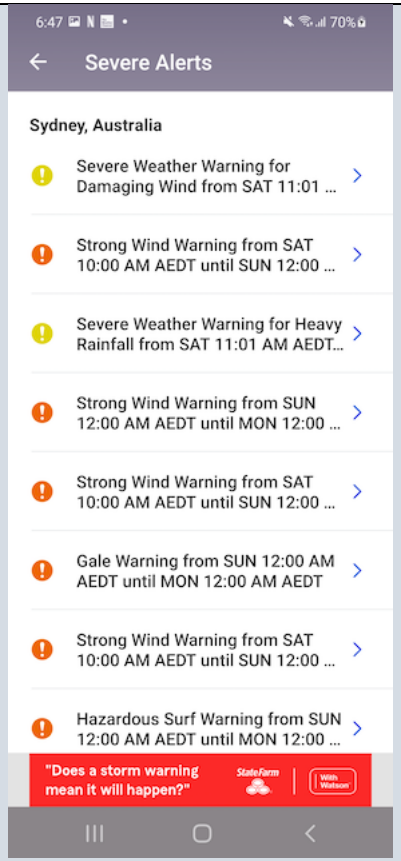

Furthermore, on information and belief, code, which is not publicly available, on the Accused Instrumentalities and apps will demonstrate responsive to reception **of one or more elements included in the received time-varying content**, modifying a feature of said viewer graphical user interface defined by the networked information monitor template in accordance with a modification corresponding to the received one or more elements. Additionally, on information and belief, all variations of the Accused Instrumentalities operate in the same infringing manner.

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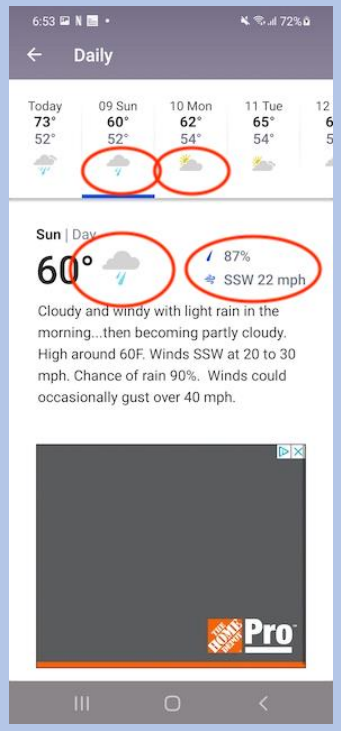
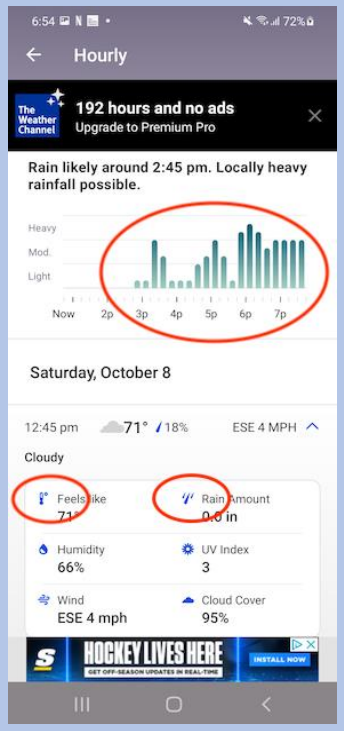
3. The client computing device of claim 2, wherein said modification corresponding to the received one or more elements comprises a modification to an image defined by the networked information monitor template as forming a part of said viewer graphical user interface.	The Accused Instrumentalities are client computing devices which meet the limitations of claim 2 for the reasons stated above. Additionally, the Accused Instrumentalities are further capable of a **modification, corresponding to the received one or more elements comprises a modification to an image defined by the networked information monitor template as forming a part of said viewer graphical user interface**. For example, in the Weather Channel App for Samsung, below, the images are modified to reflect the current weather. Note the rain icons below, as well as the modification of the background image to reflect 'Rain' and related imagery related to the current weather.  

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	Furthermore, on information and belief, code, which is not publicly available, on the Accused Instrumentalities and apps will demonstrate modification corresponding to the received one or more elements comprises a modification to an image defined by the networked information monitor template as forming a part of said viewer graphical user interface. Additionally, on information and belief, all variations of the Accused Instrumentalities operate in the same infringing manner.
4. The client computing device of claim 2, wherein the correspondence between the modification and the received one or more elements is defined by the networked information monitor template.	The Accused Instrumentalities are client computing devices which meet the limitations of claim 2 for the reasons stated above. Additionally, within the Accused Instrumentalities, which are client computing devices, there is a **correspondence between the modification and the received one or more elements is defined by the networked information monitor template.** Specifically, it necessarily follows that if there is a modification, then code within the **networked information monitor template** defines how the modification is made based on the one or more elements. Furthermore, on information and belief, code, which is not publicly available, on the Accused Instrumentalities and apps will demonstrate that the correspondence between the modification and the received one or more elements is defined by the networked information monitor template. Additionally, on information and belief, all variations of the Accused Instrumentalities operate in the same infringing manner.
8. The client computing device of claim 1, wherein the networked information monitor template	For the reasons stated above, the Accused Instrumentalities meet the limitations of Claim 1. The Accused Instrumentalities have a networked information monitor template that includes a markup language file. In the following examples, the contents of a Samsung App show that a NIM template comprises XML files which are then encoded into a binary format to create the downloadable app.

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includes a markup language file.	In Android development the UI is typically built using "Layouts" which define 'Views" which are defined in XML and generally create elements the user can view and/or interact with. • "A layout defines the structure for a user interface in your app, such as in an activity. All elements in the layout are built using a hierarchy of View and ViewGroup objects. A View usually draws something the user can see and interact with." According to the Android documentation these elements are created with XML: • *"Declare UI elements in **XML.** Android provides a straightforward **XML** vocabulary that corresponds to the View classes and subclasses, such as those for widgets and layouts.* *You can also use Android Studio's Layout Editor to build your XML layout using a drag-and-drop interface."* • *"Declaring your UI in XML allows you to separate the presentation of your app from the code that controls its behavior. Using XML files also makes it easy to provide different layouts for different screen sizes and orientations"* • *"The Android framework gives you the flexibility to use either or both of these methods to build your app's UI. For example, you can declare your app's default layouts in XML, and then modify the layout at runtime."* • *"Write the XML. Using Android's XML vocabulary, you can quickly design UI layouts and the screen elements they contain, in the same way you create web pages in HTML"* When developing for Android using Android Studio, the user interface is defined by layouts expressed in the XML markup language. Once the application is ready for installation on a device, it is converted to an APK file which is a zipped file containing all the project resources. By renaming these files as zip files (changing the file extension from .apk to .zip) the files can be unzipped. After unzipping the apk file, the contents can be viewed as a

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	directory as shown in the image below. Note the resources in the /res directory. These are images used for the UI as well as XML files defining the UI within the NIM template.

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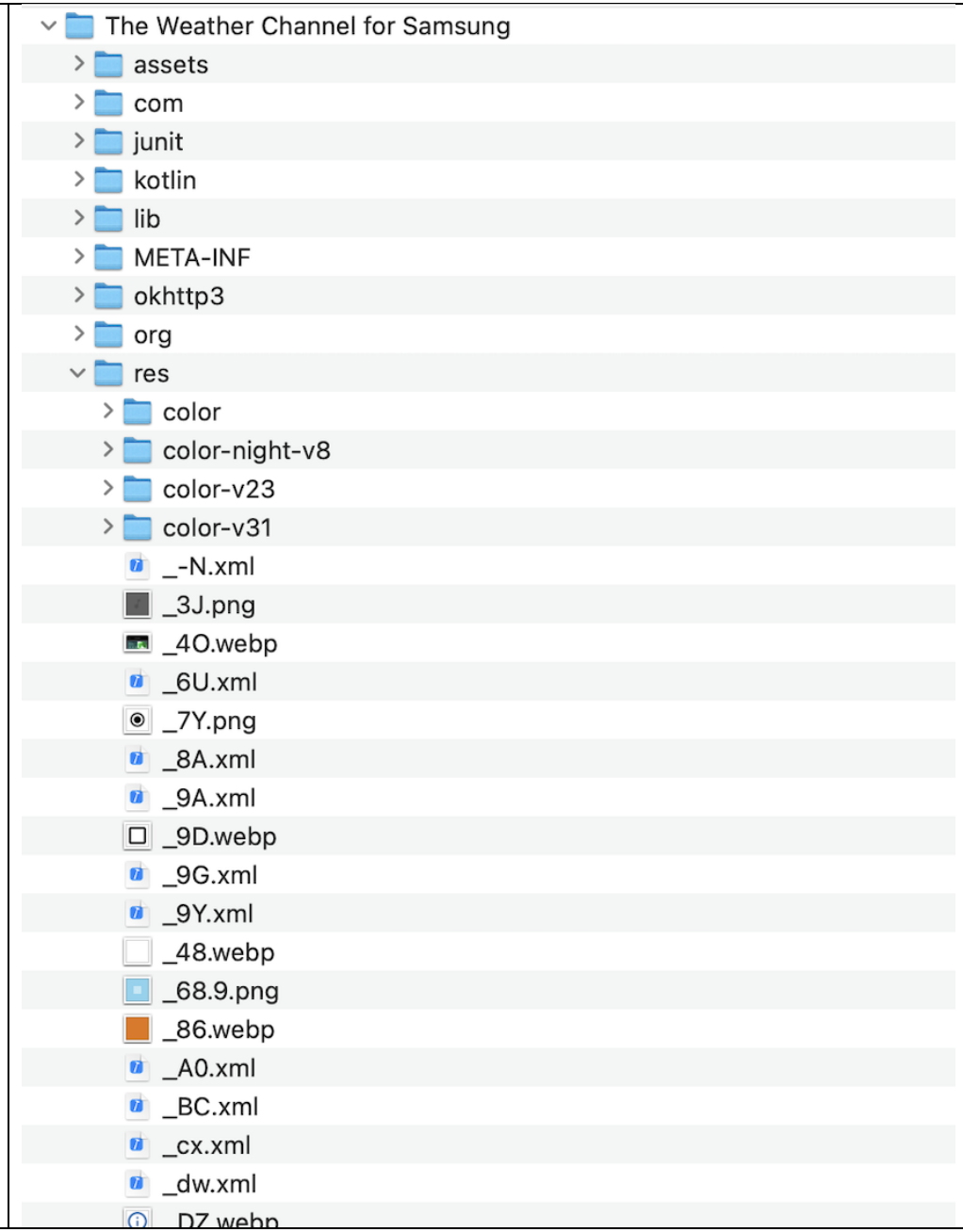
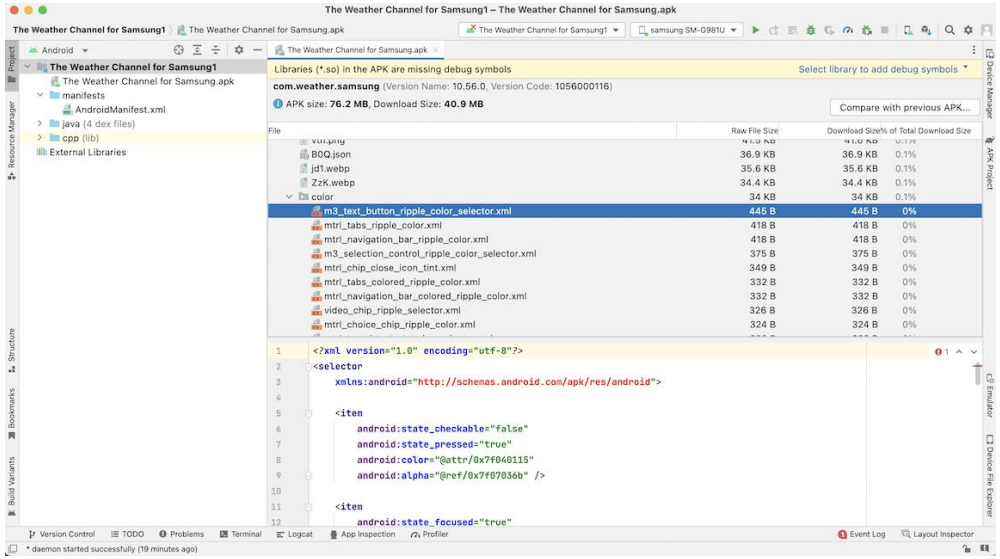


The XML files from the above directory listing are encoded in a binary format, however, they can be inspected using Android Studio. The APK files can be opened in Android Studio and inspected via the "*Profile or Debug APK*" feature. The .apk file for the Weather Channel App for Samsung can be opened using this capability which displays the contents of the NIM template as shown below.



Zooming in we can view the XML resource which defines the color and the dynamic behavior of a UI element.

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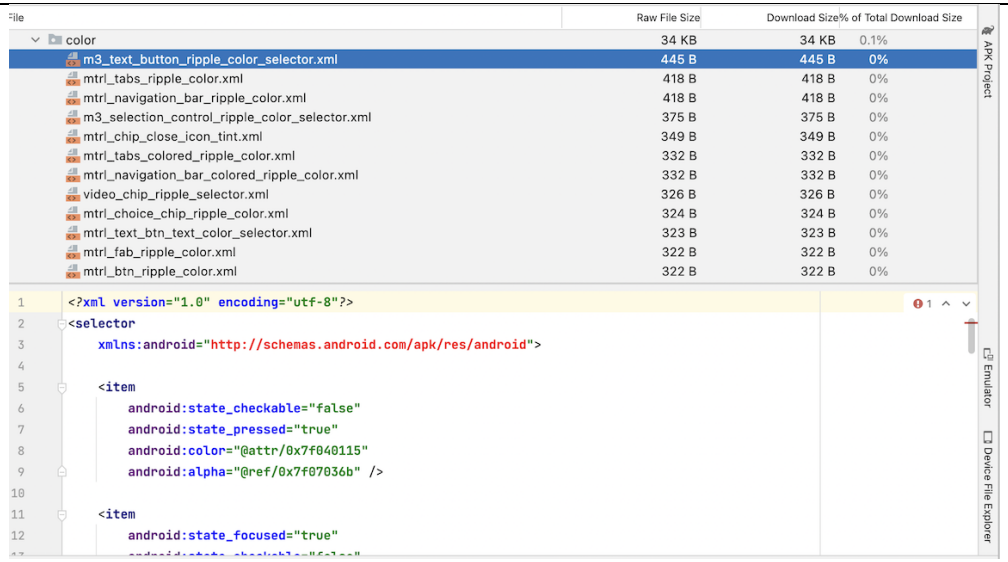
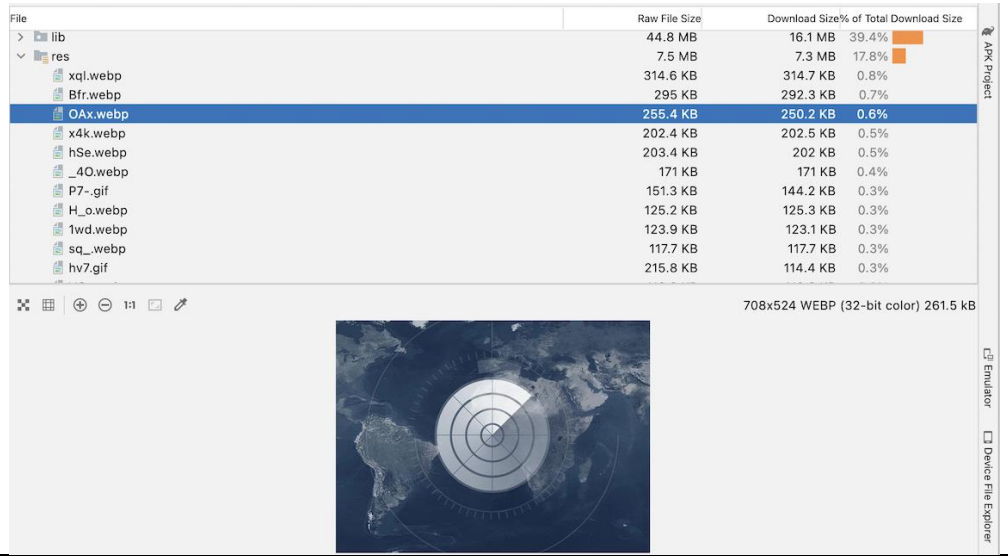


Images are also included. Note the inclusion of WebP (an image format) images as shown in the image below:



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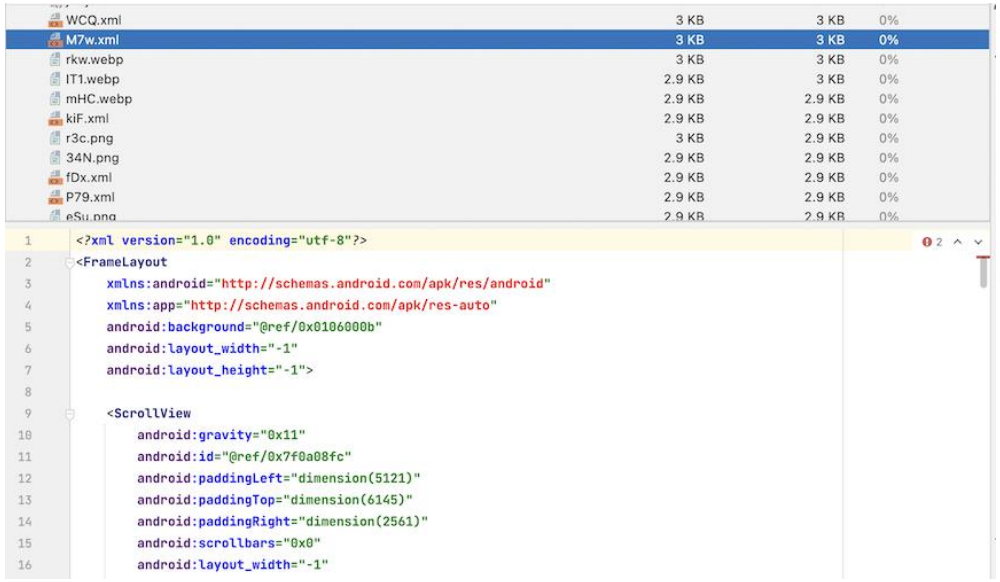
References

- https://developer.android.com/develop/ui/views/layout/declaring-layout
- https://developer.android.com/studio/profile/apk-profiler
- https://developer.android.com/studio

In the following example, the XML resource defines a frame whose definition is part of the NIM template:



The contents of that XML file shows how the frame of the NIM Template on the Accused Samsung Device, defines various UI elements including the frame size, color and layouts of the various elements within this frame.

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```
<?xml version="1.0" encoding="utf-8"?>
<FrameLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    android:background="@ref/0x0106000b"
    android:layout_width="-1"
    android:layout_height="-1">

    <ScrollView
        android:gravity="0x11"
        android:id="@ref/0x7f0a08fc"
        android:paddingLeft="dimension(5121)"
        android:paddingTop="dimension(6145)"
        android:paddingRight="dimension(2561)"
        android:scrollbars="0x0"
        android:layout_width="-1"
        android:layout_height="-1">

        <androidx.constraintlayout.widget.ConstraintLayout
            android:orientation="1"
            android:id="@ref/0x7f0a08f4"
            android:paddingBottom="dimension(51201)"
            android:layout_width="-1"
            android:layout_height="-2">

            <TextView
                android:textSize="dimension(6146)"
                android:ellipsize="3"
                android:id="@ref/0x01020016"
                android:layout_width="-2"
                android:layout_height="-2"
                android:layout_marginLeft="dimension(1281)"
                android:layout_marginRight="dimension(1281)"
                android:text="@ref/0x7f120856"
                android:maxLines="2"
                android:layout_marginHorizontal="dimension(1281)"
                app:layout_constraintStart_toStartOf="0"
                app:layout_constraintTop_toTopOf="0"
                style="@ref/0x7f1306a7" />

            <TextView
                android:textSize="dimension(4098)"
                android:id="@ref/0x7f0a096f"
                android:layout_height="-2"
                android:layout_marginTop="dimension(1025)"
                android:text="@ref/0x7f1208bd"
                android:layout_marginStart="@ref/0x7f07064f"
                android:layout_marginEnd="@ref/0x7f07064e"
                app:layout_constrainedWidth="true"
                app:layout_constraintEnd_toEndOf="0"
                app:layout_constraintStart_toStartOf="0"
                app:layout_constraintTop_toBottomOf="@ref/0x01020016"
                style="@ref/0x7f1306a6" />
```

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```
<TextView
    android:id="@ref/0x7f0a0a2d"
    android:visibility="1"
    android:text="@ref/0x7f120290"
    app:layout_constraintEnd_toEndOf="@ref/0x7f0a0426"
    app:layout_constraintStart_toStartOf="@ref/0x7f0a096f"
    app:layout_constraintTop_toBottomOf="@ref/0x7f0a096f"
    style="@ref/0x7f13027c" />

<TextView
    android:id="@ref/0x7f0a042a"
    android:layout_marginTop="dimension(4097)"
    android:text="@ref/0x7f1202fd"
    android:labelFor="@ref/0x7f0a0427"
    app:layout_constraintStart_toStartOf="0"
    app:layout_constraintTop_toBottomOf="@ref/0x7f0a0a2d"
    style="@ref/0x7f1306a1" />

<com.google.android.material.card.MaterialCardView
    android:id="@ref/0x7f0a01c7"
    app:layout_constraintEnd_toStartOf="@ref/0x7f0a0426"
    app:layout_constraintStart_toStartOf="0"
    app:layout_constraintTop_toBottomOf="@ref/0x7f0a042a"
    style="@ref/0x7f1306a2">

    <EditText
        android:id="@ref/0x7f0a0427"
        android:maxLength="32"
        android:inputType="0x61"
        style="@ref/0x7f13069f" />
</com.google.android.material.card.MaterialCardView>

<ImageView
    android:id="@ref/0x7f0a0426"
    android:contentDescription="@ref/0x7f1208b2"
    app:layout_constraintBottom_toBottomOf="@ref/0x7f0a01c7"
    app:layout_constraintEnd_toEndOf="0"
    app:layout_constraintTop_toTopOf="@ref/0x7f0a01c7"
    style="@ref/0x7f1306a3" />

<TextView
    android:id="@ref/0x7f0a0429"
    android:visibility="1"
    android:layout_width="dimension(1)"
    android:text="@ref/0x7f1208b1"
    app:layout_constraintEnd_toEndOf="0"
    app:layout_constraintStart_toStartOf="0"
    app:layout_constraintTop_toBottomOf="@ref/0x7f0a01c7"
    style="@ref/0x7f1306a0" />

<TextView
    android:id="@ref/0x7f0a03b4"
    android:layout_marginTop="@ref/0x7f070642"
```

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```
        android:text="@ref/0x7f1208ad"
        android:labelFor="@ref/0x7f0a03b1"
        app:layout_constraintStart_toStartOf="0"
        app:layout_constraintTop_toBottomOf="@ref/0x7f0a0429"
        style="@ref/0x7f1306a1" />

    <com.google.android.material.card.MaterialCardView
        android:id="@ref/0x7f0a01c4"
        app:layout_constraintEnd_toStartOf="@ref/0x7f0a03b0"
        app:layout_constraintStart_toStartOf="0"
        app:layout_constraintTop_toBottomOf="@ref/0x7f0a03b4"
        style="@ref/0x7f1306a2">

        <EditText
            android:id="@ref/0x7f0a03b1"
            android:inputType="0x21"
            style="@ref/0x7f13069f" />
    </com.google.android.material.card.MaterialCardView>

    <ImageView
        android:id="@ref/0x7f0a03b0"
        android:contentDescription="@ref/0x7f1208af"
        app:layout_constraintBottom_toBottomOf="@ref/0x7f0a01c4"
        app:layout_constraintEnd_toEndOf="0"
        app:layout_constraintTop_toTopOf="@ref/0x7f0a01c4"
        style="@ref/0x7f1306a3" />

    <TextView
        android:id="@ref/0x7f0a03b3"
        android:layout_width="dimension(1)"
        android:text="@ref/0x7f1208ac"
        app:layout_constraintEnd_toEndOf="0"
        app:layout_constraintStart_toStartOf="0"
        app:layout_constraintTop_toBottomOf="@ref/0x7f0a01c4"
        style="@ref/0x7f1306a0" />

    <TextView
        android:id="@ref/0x7f0a0298"
        android:layout_marginTop="@ref/0x7f070642"
        android:text="@ref/0x7f1208a6"
        android:labelFor="@ref/0x7f0a0296"
        app:layout_constraintStart_toStartOf="0"
        app:layout_constraintTop_toBottomOf="@ref/0x7f0a03b3"
        style="@ref/0x7f1306a1" />

    <com.google.android.material.card.MaterialCardView
        android:id="@ref/0x7f0a01a9"
        app:layout_constraintEnd_toStartOf="@ref/0x7f0a0295"
        app:layout_constraintStart_toStartOf="0"
        app:layout_constraintTop_toBottomOf="@ref/0x7f0a0298"
        style="@ref/0x7f1306a2">

        <com.google.android.material.textfield.TextInputEditText
            android:id="@ref/0x7f0a0296"
```

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```
            android:longClickable="false"
            android:inputType="0x21"
            android:textIsSelectable="false"
            style="@ref/0x7f13069f" />
    </com.google.android.material.card.MaterialCardView>

    <ImageView
        android:id="@ref/0x7f0a0295"
        android:contentDescription="@ref/0x7f1208a8"
        app:layout_constraintBottom_toBottomOf="@ref/0x7f0a01a9"
        app:layout_constraintEnd_toEndOf="0"
        app:layout_constraintTop_toTopOf="@ref/0x7f0a01a9"
        style="@ref/0x7f1306a3" />

    <TextView
        android:id="@ref/0x7f0a0297"
        android:layout_width="dimension(1)"
        android:text="@ref/0x7f1208ac"
        app:layout_constraintEnd_toEndOf="0"
        app:layout_constraintStart_toStartOf="0"
        app:layout_constraintTop_toBottomOf="@ref/0x7f0a01a9"
        style="@ref/0x7f1306a0" />

    <TextView
        android:id="@ref/0x7f0a0703"
        android:layout_marginTop="@ref/0x7f070642"
        android:text="@ref/0x7f1208b8"
        android:labelFor="@ref/0x7f0a06fe"
        app:layout_constraintStart_toStartOf="0"
        app:layout_constraintTop_toBottomOf="@ref/0x7f0a0297"
        style="@ref/0x7f1306a1" />

    <androidx.cardview.widget.CardView
        android:id="@ref/0x7f0a01cf"
        app:layout_constraintEnd_toStartOf="@ref/0x7f0a06fd"
        app:layout_constraintStart_toStartOf="0"
        app:layout_constraintTop_toBottomOf="@ref/0x7f0a0703"
        style="@ref/0x7f1306a2">

        <com.google.android.material.textfield.TextInputLayout
            android:id="@ref/0x7f0a0701"
            android:layout_width="-1"
            android:layout_height="-2"
            app:hintEnabled="false"
            app:passwordToggleEnabled="true"
            app:passwordToggleTint="@ref/0x7f0601d2">

            <com.weather.Weather.ui.WeatherEditText
                android:id="@ref/0x7f0a06ff"
                android:maxLength="64"
                app:passwordToggleEnabled="true"
                app:passwordToggleTint="@ref/0x7f0601d2"
                style="@ref/0x7f1303ff" />
        </com.google.android.material.textfield.TextInputLayout>
```

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```
</androidx.cardview.widget.CardView>

<ImageView
    android:id="@ref/0x7f0a06fd"
    android:contentDescription="@ref/0x7f1208bb"
    app:layout_constraintBottom_toBottomOf="@ref/0x7f0a01cf"
    app:layout_constraintEnd_toEndOf="0"
    app:layout_constraintTop_toTopOf="@ref/0x7f0a01cf"
    style="@ref/0x7f1306a3" />

<TextView
    android:textStyle="0x0"
    android:textColor="@ref/0x7f06048a"
    android:id="@ref/0x7f0a0704"
    android:visibility="0"
    android:layout_width="dimension(1)"
    android:text="@ref/0x7f120605"
    android:contentDescription="@ref/0x7f120606"
    app:layout_constraintBottom_toTopOf="@ref/0x7f0a0159"
    app:layout_constraintEnd_toEndOf="@ref/0x7f0a06fd"
    app:layout_constraintStart_toStartOf="0"
    app:layout_constraintTop_toBottomOf="@ref/0x7f0a01cf"
    style="@ref/0x7f1306a0" />

<TextView
    android:id="@ref/0x7f0a0700"
    android:visibility="2"
    android:layout_width="dimension(1)"
    android:text="@ref/0x7f120605"
    android:contentDescription="@ref/0x7f120606"
    app:layout_constraintBottom_toTopOf="@ref/0x7f0a0159"
    app:layout_constraintEnd_toEndOf="@ref/0x7f0a06fd"
    app:layout_constraintStart_toStartOf="0"
    app:layout_constraintTop_toBottomOf="@ref/0x7f0a01cf"
    style="@ref/0x7f1306a0" />

<androidx.constraintlayout.widget.Barrier
    android:id="@ref/0x7f0a0159"
    android:layout_width="-2"
    android:layout_height="-2"
    app:barrierDirection="3"
    app:constraint_referenced_ids="password_suggestion_textView,password_error_textView" />

<TextView
    android:id="@ref/0x7f0a02a0"
    android:layout_marginTop="@ref/0x7f070642"
    android:text="@ref/0x7f1208a9"
    android:labelFor="@ref/0x7f0a029b"
    app:layout_constraintStart_toStartOf="0"
    app:layout_constraintTop_toBottomOf="@ref/0x7f0a0159"
    style="@ref/0x7f1306a1" />

<androidx.cardview.widget.CardView
    android:id="@ref/0x7f0a01aa"
```

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```
            app:layout_constraintEnd_toStartOf="@ref/0x7f0a0299"
            app:layout_constraintStart_toStartOf="0"
            app:layout_constraintTop_toBottomOf="@ref/0x7f0a02a0"
            style="@ref/0x7f1306a2">

            <com.google.android.material.textfield.TextInputLayout
                android:id="@ref/0x7f0a029e"
                android:layout_width="-1"
                android:layout_height="-2"
                app:hintEnabled="false"
                app:passwordToggleContentDescription="@ref/0x7f120602"
                app:passwordToggleTint="@ref/0x7f0601d2">

                <com.google.android.material.textfield.TextInputEditText
                    android:id="@ref/0x7f0a029b"
                    android:longClickable="false"
                    android:maxLength="64"
                    android:textIsSelectable="false"
                    app:passwordToggleContentDescription="@ref/0x7f120602"
                    app:passwordToggleTint="@ref/0x7f0601d2"
                    style="@ref/0x7f1303ff" />
            </com.google.android.material.textfield.TextInputLayout>
        </androidx.cardview.widget.CardView>

        <ImageView
            android:id="@ref/0x7f0a0299"
            android:contentDescription="@ref/0x7f1208ab"
            app:layout_constraintBottom_toBottomOf="@ref/0x7f0a01aa"
            app:layout_constraintEnd_toEndOf="0"
            app:layout_constraintTop_toTopOf="@ref/0x7f0a01aa"
            style="@ref/0x7f1306a3" />

        <TextView
            android:id="@ref/0x7f0a029d"
            android:layout_width="dimension(1)"
            android:text="@ref/0x7f1208b5"
            app:layout_constrainedWidth="true"
            app:layout_constraintEnd_toEndOf="0"
            app:layout_constraintStart_toStartOf="0"
            app:layout_constraintTop_toBottomOf="@ref/0x7f0a01aa"
            style="@ref/0x7f1306a0" />

        <TextView
            android:id="@ref/0x7f0a0457"
            android:layout_width="-2"
            android:layout_marginTop="@ref/0x7f070642"
            android:text="@ref/0x7f120332"
            android:labelFor="@ref/0x7f0a0454"
            app:layout_constraintStart_toStartOf="0"
            app:layout_constraintTop_toBottomOf="@ref/0x7f0a029d"
            style="@ref/0x7f1306a1" />

        <ImageView
            android:id="@ref/0x7f0a045b"
```

Exhibit A: Samsung's Infringement of United States Patent No. 8,510,407

```
        android:layout_width="dimension(4097)"
        android:layout_height="dimension(4097)"
        android:layout_marginTop="dimension(1025)"
        android:src="@ref/0x7f080274"
        android:contentDescription="@ref/0x7f1203a6"
        android:layout_marginStart="dimension(2561)"
        app:layout_constraintBottom_toBottomOf="@ref/0x7f0a0457"
        app:layout_constraintStart_toEndOf="@ref/0x7f0a0457" />

    <com.google.android.material.card.MaterialCardView
        android:id="@ref/0x7f0a01c8"
        app:layout_constraintEnd_toStartOf="@ref/0x7f0a0453"
        app:layout_constraintStart_toStartOf="0"
        app:layout_constraintTop_toBottomOf="@ref/0x7f0a0457"
        style="@ref/0x7f1306a2">

        <com.google.android.material.textfield.TextInputLayout
            android:id="@ref/0x7f0a0455"
            app:boxBackgroundColor="@ref/0x0106000d"
            app:boxStrokeWidth="dimension(1)"
            app:endIconDrawable="@ref/0x7f080228"
            app:endIconTint="@ref/0x7f0601d2"
            style="@ref/0x7f130402">

            <com.weather.Weather.ui.KeyValueDropDownView
                android:textColor="@ref/0x7f0604ff"
                android:id="@ref/0x7f0a0454"
                android:background="@ref/0x00000000"
                android:inputType="0x1"
                style="@ref/0x7f130400" />
        </com.google.android.material.textfield.TextInputLayout>
    </com.google.android.material.card.MaterialCardView>

    <ImageView
        android:id="@ref/0x7f0a0453"
        android:contentDescription="@ref/0x7f1208b3"
        app:layout_constraintBottom_toBottomOf="@ref/0x7f0a01c8"
        app:layout_constraintEnd_toEndOf="0"
        app:layout_constraintTop_toTopOf="@ref/0x7f0a01c8"
        style="@ref/0x7f1306a3" />

    <CheckBox
        android:gravity="0x30"
        android:id="@ref/0x7f0a08f3"
        android:paddingTop="dimension(769)"
        android:layout_width="-2"
        android:layout_height="-2"
        android:layout_marginTop="@ref/0x7f070642"
        app:layout_constraintStart_toStartOf="0"
        app:layout_constraintTop_toBottomOf="@ref/0x7f0a01c8"
        style="@ref/0x7f1306a6" />

    <TextView
        android:id="@ref/0x7f0a01e7"
```

Exhibit A: Samsung's Infringement of United States Patent No. 8,510,407

```
            android:layout_width="dimension(1)"
            android:layout_height="-2"
            android:layout_marginStart="dimension(1793)"
            android:layout_marginEnd="@ref/0x7f07064e"
            android:labelFor="@ref/0x7f0a08f3"
            app:layout_constrainedWidth="true"
            app:layout_constraintBottom_toBottomOf="@ref/0x7f0a08f3"
            app:layout_constraintEnd_toEndOf="0"
            app:layout_constraintStart_toEndOf="@ref/0x7f0a08f3"
            app:layout_constraintTop_toTopOf="@ref/0x7f0a08f3" />

        <TextView
            android:id="@ref/0x7f0a0a35"
            android:layout_marginTop="dimension(1537)"
            android:text="@ref/0x7f1208c3"
            app:layout_constraintStart_toStartOf="0"
            app:layout_constraintTop_toBottomOf="@ref/0x7f0a01e7"
            style="@ref/0x7f1306a0" />

        <Button
            android:textColor="@ref/0x7f060501"
            android:id="@ref/0x7f0a0192"
            android:background="@ref/0x7f080071"
            android:layout_marginTop="dimension(7681)"
            android:text="@ref/0x7f120850"
            android:key="sign_up_button"
            app:layout_constraintStart_toStartOf="0"
            app:layout_constraintTop_toBottomOf="@ref/0x7f0a0a35"
            style="@ref/0x7f130004" />

        <TextView
            android:id="@ref/0x7f0a0122"
            android:layout_width="-2"
            android:layout_marginTop="@ref/0x7f070642"
            android:text="@ref/0x7f1206c9"
            app:layout_constraintStart_toStartOf="0"
            app:layout_constraintTop_toBottomOf="@ref/0x7f0a0192"
            style="@ref/0x7f1306a6" />

        <TextView
            android:textColor="@ref/0x7f06000a"
            android:id="@ref/0x7f0a05a6"
            android:text="@ref/0x7f12083b"
            android:layout_marginStart="dimension(2049)"
            app:layout_constraintBottom_toBottomOf="@ref/0x7f0a0122"
            app:layout_constraintStart_toEndOf="@ref/0x7f0a0122"
            style="@ref/0x7f1306a6" />

        <TextView
            android:textColor="@ref/0x7f0601c2"
            android:id="@ref/0x7f0a017b"
            android:visibility="2"
            android:layout_width="-1"
            android:layout_marginTop="@ref/0x7f070642"
```

Exhibit A: Samsung's Infringement of United States Patent No. 8,510,407

```
                android:layout_marginStart="@ref/0x7f07064f"
                android:layout_marginEnd="@ref/0x7f07064e"
                app:layout_constraintStart_toStartOf="0"
                app:layout_constraintTop_toBottomOf="@ref/0x7f0a0122"
                style="@ref/0x7f1306a6" />

            <TextView
                android:textColor="@ref/0x7f06000a"
                android:id="@ref/0x7f0a09bd"
                android:layout_marginTop="@ref/0x7f070642"
                android:text="@ref/0x7f1208c4"
                android:paddingEnd="dimension(2561)"
                app:layout_constraintStart_toStartOf="0"
                app:layout_constraintTop_toBottomOf="@ref/0x7f0a017b"
                style="@ref/0x7f1306a6" />

            <TextView
                android:id="@ref/0x7f0a038e"
                android:text="|"
                android:importantForAccessibility="2"
                app:layout_constraintBottom_toBottomOf="@ref/0x7f0a09bd"
                app:layout_constraintStart_toEndOf="@ref/0x7f0a09bd"
                app:layout_constraintTop_toTopOf="@ref/0x7f0a09bd"
                style="@ref/0x7f1306a6" />

            <TextView
                android:textColor="@ref/0x7f06000a"
                android:id="@ref/0x7f0a0787"
                android:text="@ref/0x7f1208be"
                android:paddingStart="dimension(2561)"
                app:layout_constraintBottom_toBottomOf="@ref/0x7f0a09bd"
                app:layout_constraintStart_toEndOf="@ref/0x7f0a038e"
                style="@ref/0x7f1306a6" />
        </androidx.constraintlayout.widget.ConstraintLayout>
    </ScrollView>

    <ProgressBar
        android:layout_gravity="0x11"
        android:id="@ref/0x7f0a0792"
        android:visibility="1"
        android:layout_width="@ref/0x7f070691"
        android:layout_height="@ref/0x7f070691"
        android:contentDescription="@ref/0x7f1208f8"
        android:indeterminateTint="@ref/0x7f06045f" />
</FrameLayout>
```

Furthermore, on information and belief, code, which is not publicly available, on the Accused Instrumentalities and apps will demonstrate that the networked information monitor template includes a markup language file. Additionally, on information and belief, all variations of the Accused Instrumentalities operate in the same infringing manner.

Exhibit A: Samsung's Infringement of United States Patent No. 8,510,407

9. The client computing device of claim 1, wherein one or more computer program modules are configured such that the time-varying content is received from the web server over the network according to the TCP/IP protocol.	The Accused Instrumentalities are client computing devices which meet the limitations of claim 1 for the reasons stated above. The Accused Instrumentalities have one or more computer program modules that are configured such that the time-varying content is received from the web server over the network according to the TCP/IP protocol. The Accused Instrumentalities include one or more computer program modules are configured **to receive time varying content**. For example, upon installation of the "Weather Channel for Samsung" app, a splash screen can be seen with the message 'Still waiting for server…' as it loads data to display. 

Exhibit A: Samsung's Infringement of United States Patent No. 8,510,407

	Upon loading this data, the screen shows the time-varying content for the weather based on the current date and for the location of the phone, as shown below. Note 'San Bruno' in the header on the image below left. Tapping on the header displays the current location with an option to set the location to another city or zip code, below right.  

Exhibit A: Samsung's Infringement of United States Patent No. 8,510,407

	Additionally, the Accused Instrumentalities so that the time varying content is **received from the web server over the network according to the TCP/IP protocol.** As discussed above, a test app was generate that pointed to the following location: fennetic.net/irc/finney.org/~hal/home.html Running the App on the Samsung device displays the content as shown below. 

Exhibit A: Samsung's Infringement of United States Patent No. 8,510,407

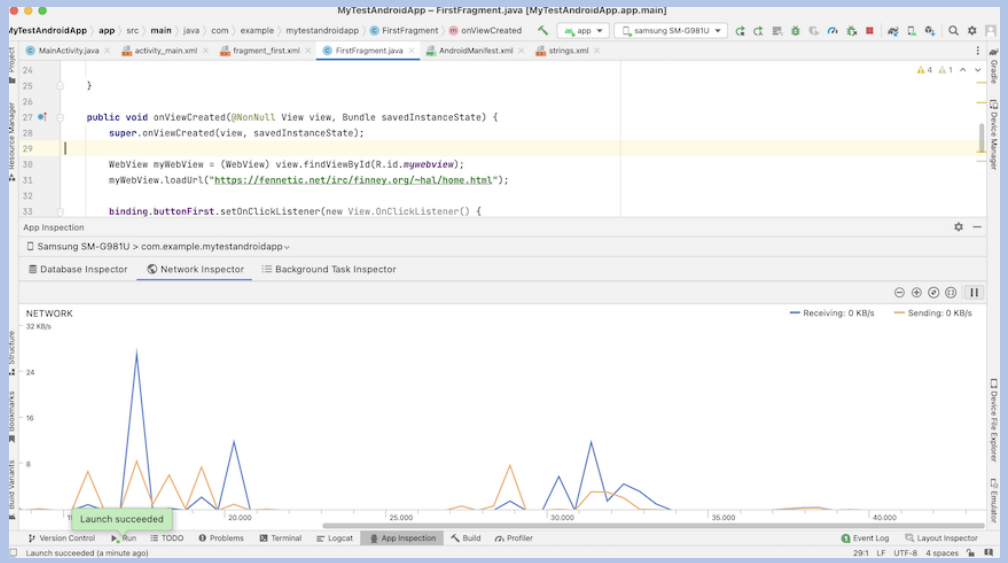
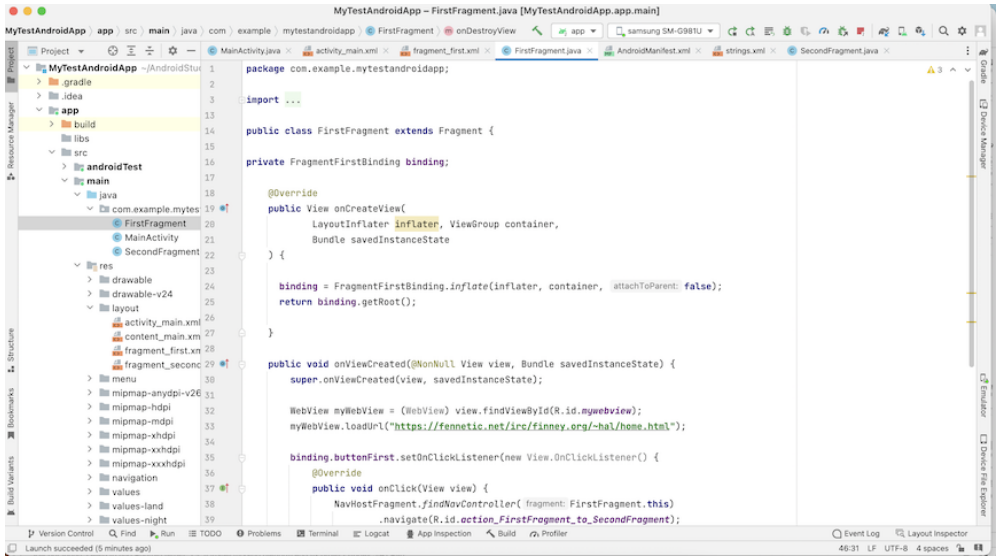
	Monitoring the network traffic during the load of this content reveals that a network request was initiated over TCP/IP and content was received as shown in the image below of the 'Network Inspector' analysis tool which is part of the Android Studio development suite.  Furthermore, on information and belief, code, which is not publicly available, on the Accused Instrumentalities and apps will demonstrate that there are one or more computer program modules are configured such that the time-varying content is received from the web server over the network according to the TCP/IP protocol. Additionally, on information and belief, all variations of the Accused Instrumentalities operate in the same infringing manner.
10. The client computing device of claim 1, wherein the network location	The Accused Instrumentalities are client computing devices which meet the limitations of claim 1 for the reasons stated above. Within the Accused Instrumentalities, the NIM Templates have a network location that corresponds to a uniform resource locator (URL). For this example, with the Samsung Test App, created using Android Studio, Android's development environment, there is a simple webview using the following URL:

Exhibit A: Samsung's Infringement of United States Patent No. 8,510,407

corresponds to a uniform resource locator included in the networked information monitor template.	fennetic.net/irc/finney.org/~hal/home.html
	
	This can be seen in this line of code:
	
	`myWebView.loadUrl("https://fennetic.net/irc/finney.org/~hal/home.html");`
	
	This code come from the main portion of the Samsung Test App shown below as the source code and then as shown in the Android Studio development tool.
	
	`package com.example.mytestandroidapp;`
	`import …`
	`public class FirstFragment extends Fragment {`
	`private FragmentFirstBinding binding;`
	
	`@Override`
	`public View onCreateView(`
	`LayoutInflater inflater, ViewGroup container,`
	`Bundle savedInstanceState`
	`) {`
	
	`binding = FragmentFirstBinding.inflate(inflater, container, false);`
	`return binding.getRoot();`
	
	`}`
	
	`public void onViewCreated(@NonNull View, Bundle savedInstanceState) {`
	`super.onViewCreated(view, savedInstanceState);`
	
	`WebView myWebView = (WebView) view.findViewById(R.id.mywebview);`
	`myWebView.loadUrl("https://fennetic.net/irc/finney.org/~hal/home.html");`
	
	`binding.buttonFirst.setOnClickListener(new View.OnClickListener() {`
	`@Override`
	`public void onClick(View view) {`
	`myWebView.loadUrl("https://fennetic.net/irc/finney.org/~hal/web_of_trust.html");`
	`}`
	`});`
	`}`
	`@Override`
	`public void onDestroyView() {`

Exhibit A: Samsung's Infringement of United States Patent No. 8,510,407

```
            super.onDestroyView();
            binding = null;
        }
}
```

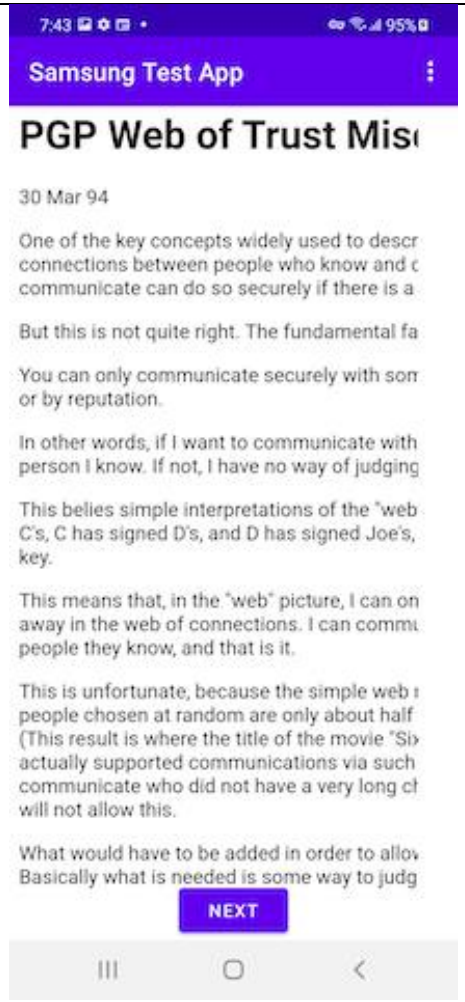


Running the app on a Samsung S20 with Android 11 as shown below, displays the web page for Hal Finney who was a notable computer scientist.

Exhibit A: Samsung's Infringement of United States Patent No. 8,510,407

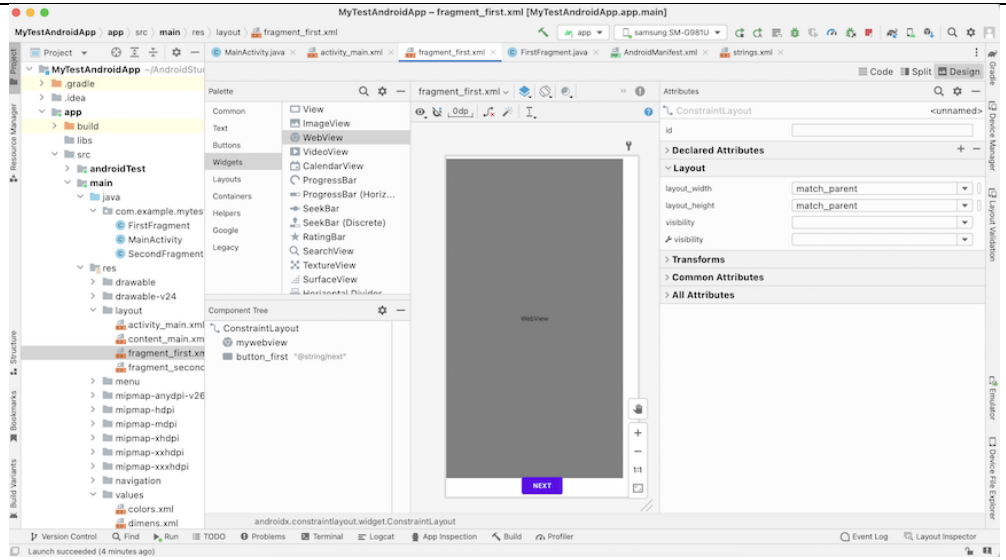
Clicking on the 'NEXT' button displays a second page from the Hal Finney website based on a URL embedded in the code goes to another page.

Exhibit A: Samsung's Infringement of United States Patent No. 8,510,407



Here is the Layout as seen in the Android Studio development environment:

Exhibit A: Samsung's Infringement of United States Patent No. 8,510,407



And here is the XML created by Android Studio, which contains the layout of the screen as shown below:

Exhibit A: Samsung's Infringement of United States Patent No. 8,510,407

fragment_first.xml

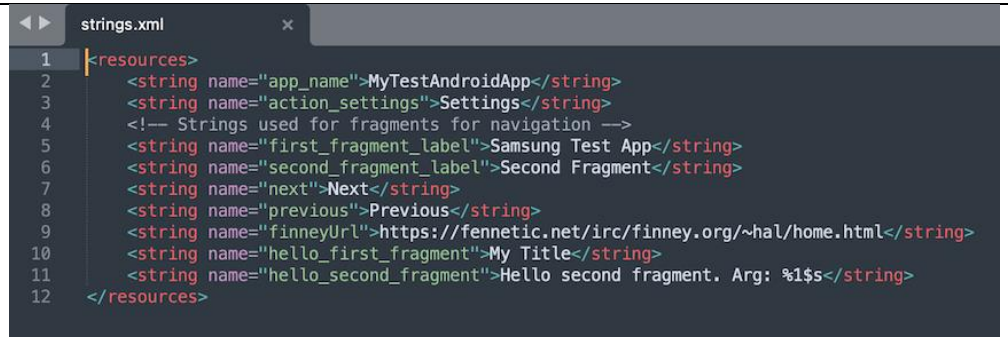
```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".FirstFragment">

    <WebView
        android:id="@+id/mywebview"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:layout_marginTop="5dp"
        android:layout_marginEnd="32dp"
        android:layout_marginBottom="40dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <Button
        android:id="@+id/button_first"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="@string/next"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

The XML also includes strings, which in this example shows the URL for the Hal Finney website.

Exhibit A: Samsung's Infringement of United States Patent No. 8,510,407

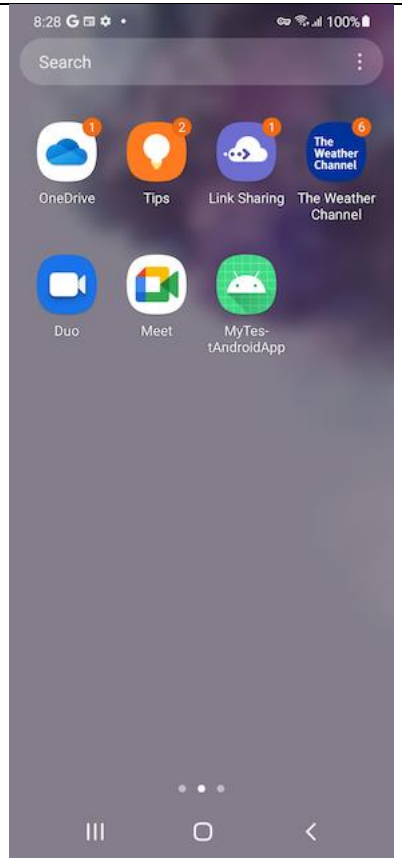


And here is the app when run. Notice the same Hal Finney web page loads based on the URL in the XML file.

Exhibit A: Samsung's Infringement of United States Patent No. 8,510,407

The test app ('MyTestAndroidApp'), when installed as shown on the home screen is shown below.

Exhibit A: Samsung's Infringement of United States Patent No. 8,510,407



When the APK is used, an installer creates an APP using the XML layout and other resource files that are converted to binary format come from within the app's bundle, the APK file, which is a zipped archive. A release APK file can be opened within Android Studio to reveal these XML files, as shown in the following images.

Exhibit A: Samsung's Infringement of United States Patent No. 8,510,407

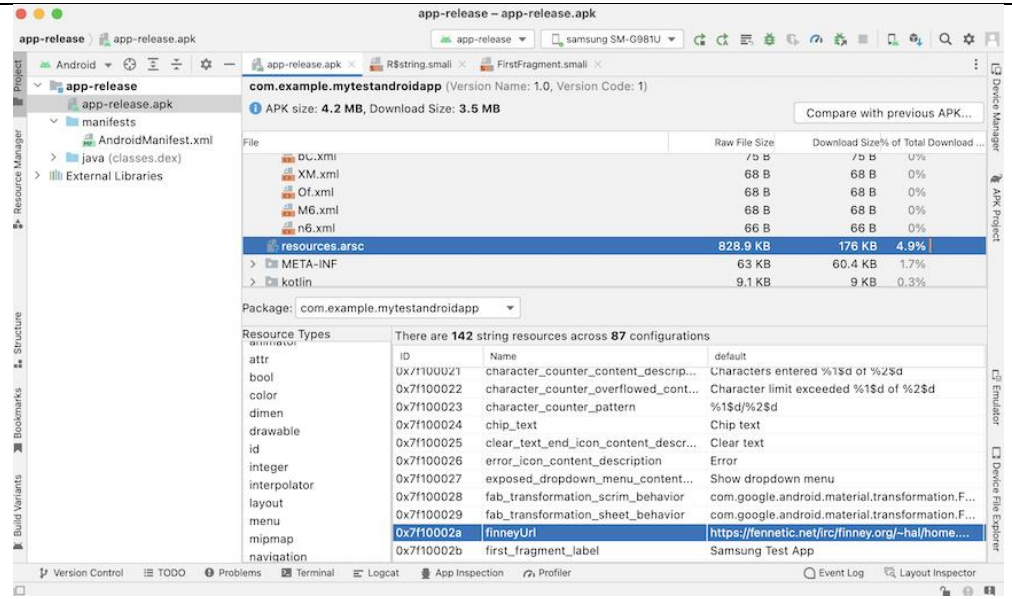
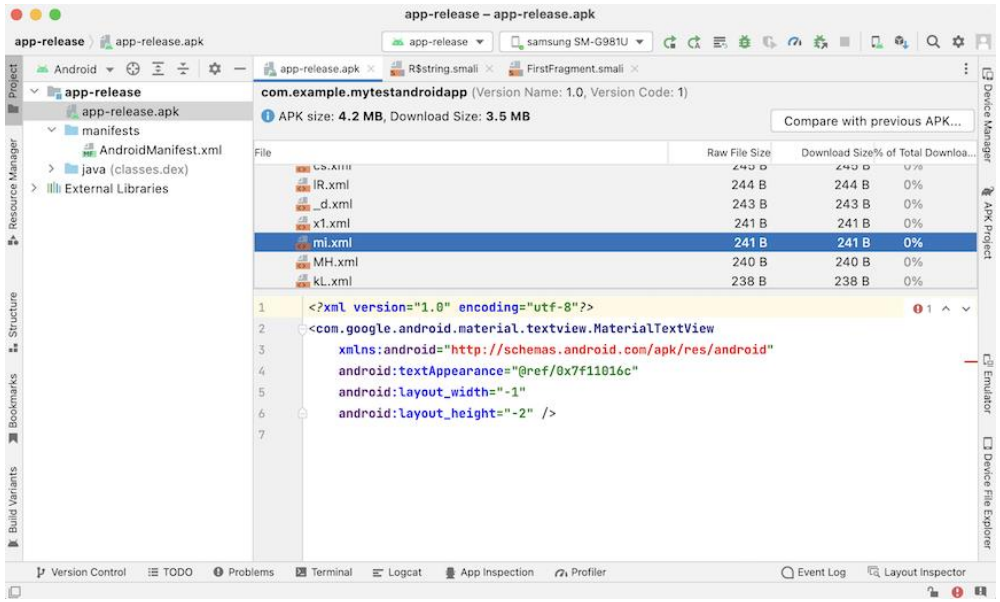


Exhibit A: Samsung's Infringement of United States Patent No. 8,510,407



References:

- https://developer.android.com/guide/topics/resources/providing-resources
- https://developer.android.com/guide/topics/resources/layout-resource

In Summary, the Samsung Test App shows that there is a network location that corresponds to a uniform resource locator included in the networked information monitor template. Furthermore, on information and belief, code, which is not publicly available, on the Accused Instrumentalities and apps will demonstrate that there is network location that corresponds to a uniform resource locator included in the networked information monitor template. Additionally, on information and belief, all variations of the Accused Instrumentalities operate in the same infringing manner.

11. The client computing device	The Accused Instrumentalities are client computing devices which meet the limitations of claim 10 for the reasons stated above. The Accused Instrumentalities have one or more computer program modules that

Exhibit A: Samsung's Infringement of United States Patent No. 8,510,407

of claim 10, wherein the one or more computer program modules are further configured such that accessing the networked information monitor defined by the networked information monitor template results in transmission of the content request to the uniform resource locator included in the networked information monitor template, and the content request being transmitted according to the TCP/IP protocol over the network.	are further configured such that accessing the networked information monitor defined by the networked information monitor template results in transmission of the content request to the uniform resource locator included in the networked information monitor template, and the content request being transmitted according to the TCP/IP protocol over the network. As discussed above, running the test app displays the content as shown below.  Monitoring the network traffic during the load of this content reveals that a network request was initiated over TCP/IP and content was received as shown in the image below of the 'Network Inspector' analysis tool which is part of the Android Studio development suite. The transmission and receipt of the

Exhibit A: Samsung's Infringement of United States Patent No. 8,510,407

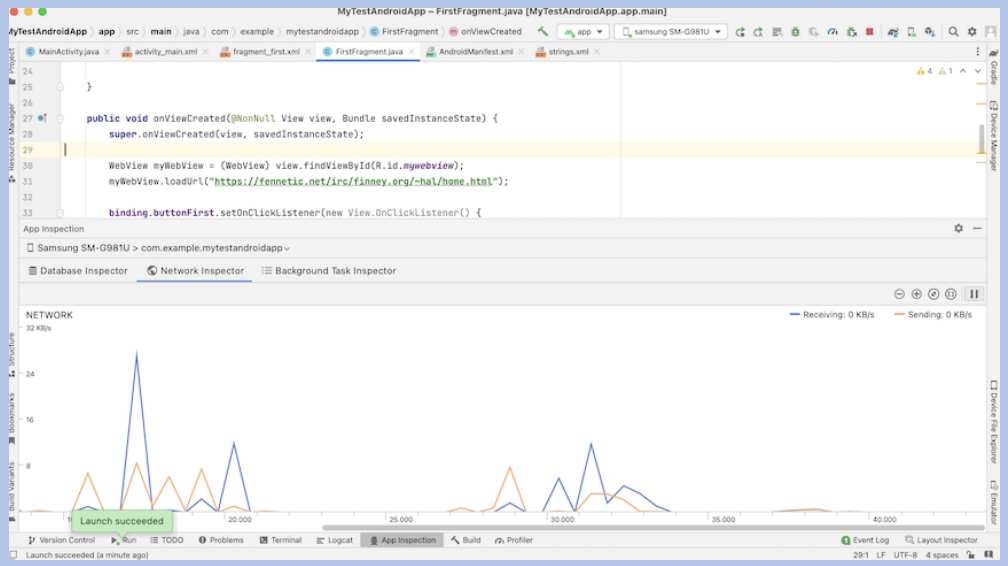
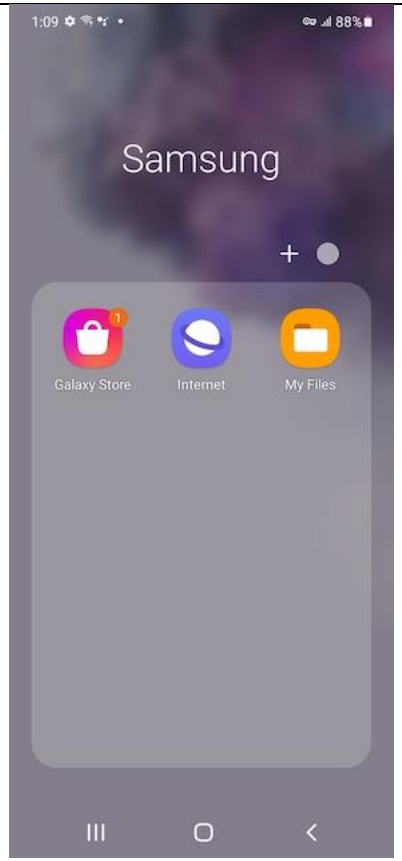
	information demonstrates that there are one or more computer modules configured **such that accessing the networked information monitor defined by the networked information monitor template results in transmission of the content request to the uniform resource locator included in the networked information monitor template, and the content request being transmitted according to the TCP/IP protocol over the network.** 

Exhibit A: Samsung's Infringement of United States Patent No. 8,510,407

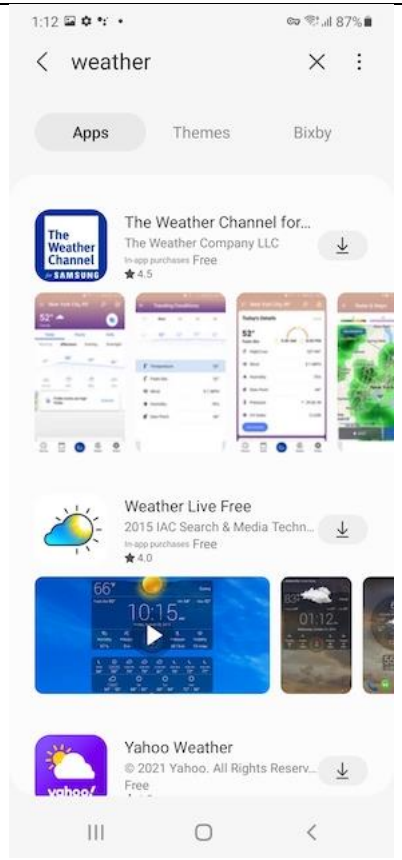
12. The client computing device of claim 1, wherein the one or more computer program modules are further configured: to transmit, over the network to a networked information monitor server, a request for the networked information monitor template;	The Accused Instrumentalities are client computing devices which meet the limitations of claim 1 for the reasons stated above. The Accused Instrumentalities have one or more computer program modules that are further configured to transmit over the network to a networked information monitor server, a request for the networked information monitor template. For example, by running the Galaxy Store app by tapping the Galaxy Store Icon:  This loads the Galaxy Store App as shown below. The Galaxy Store app comes preinstalled on Samsung Phones as shown below.

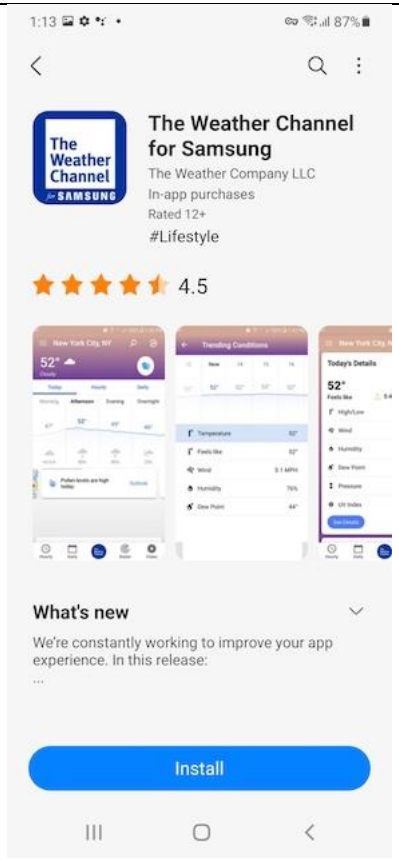
Exhibit A: Samsung's Infringement of United States Patent No. 8,510,407



From within the Galaxy Store app we search for the term 'weather' which displays icons representing various weather NIMs. Scrolling down and the 'Weather Channel for Samsung' app is presented as an option, image below left, which can be clicked on for more details, below right. This provides an 'Install' button as seen below right. The ability to download and install the Weather Channel app demonstrates that the Accused Instrumentalities includes **one or more computer program modules are further configured to transmit, over the network to a networked information monitor server, a request for the networked information monitor template.** Notably, downloading and installing includes the downloading of the .APK file from the network serves and creation of the App by the installer.

Exhibit A: Samsung's Infringement of United States Patent No. 8,510,407



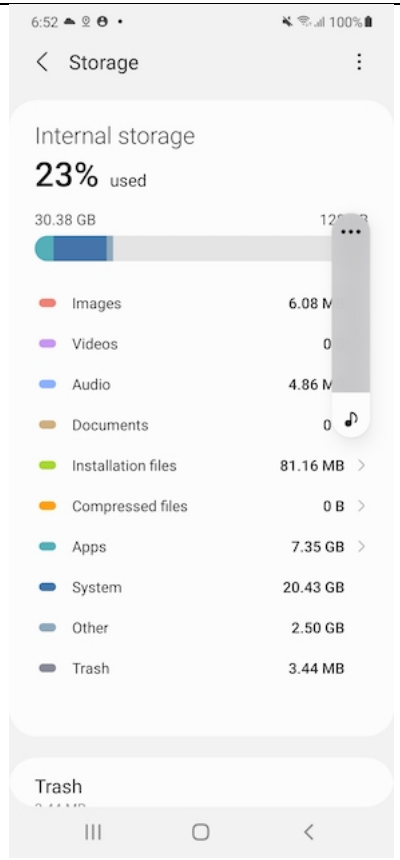


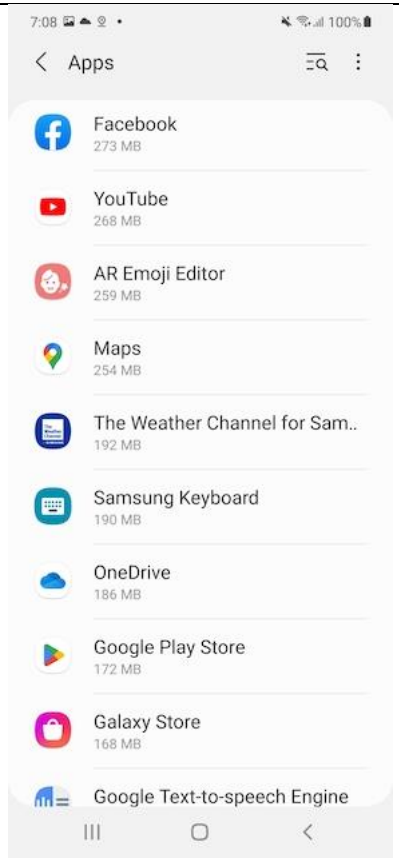
Furthermore, on information and belief, code, which is not publicly available, on the Accused Instrumentalities and apps will demonstrate that there are **one or more computer program modules are further configured to transmit, over the network to a networked information monitor server, a request for the networked information monitor template**. Additionally, on information and belief, all variations of the Accused Instrumentalities operate in the same infringing manner.

Exhibit A: Samsung's Infringement of United States Patent No. 8,510,407

to receive, from the networked information monitor server over the network, the networked information monitor template; and	The Accused Instrumentalities include one or more computer modules configured to receive, from the networked information monitor server over the network, the networked information monitor template. The ability to open the Weather Channel app after installation demonstrates that the Accused Instrumentalities includes one or more computer program modules are further configured to **receive, from the networked information monitor server over the network, the networked information monitor template.** Furthermore, on information and belief, code, which is not publicly available, on the Accused Instrumentalities and apps will demonstrate that there are one or more computer program modules are further configured to receive, from the networked information monitor server over the network, the networked information monitor template. Additionally, on information and belief, all variations of the Accused Instrumentalities operate in the same infringing manner.
to store the networked information monitor template to the electronic storage.	The Accused Instrumentalities store the networked information monitor template to the electronic storage. After installation of the Weather Channel App for Samsung NIM template, one can view the electronic storage. Specifically by looking into the settings of the Accused Instrumentalities and tapping on Battery and Device Care; then tapping on 'Storage' the electronic storage summary is displayed as shown in the image below left. Tapping on the 'Apps' button displays the storage used for each NIM template. Notice that the Weather Channel for Samsung app uses 192MB of storage after downloaded as shown below right.

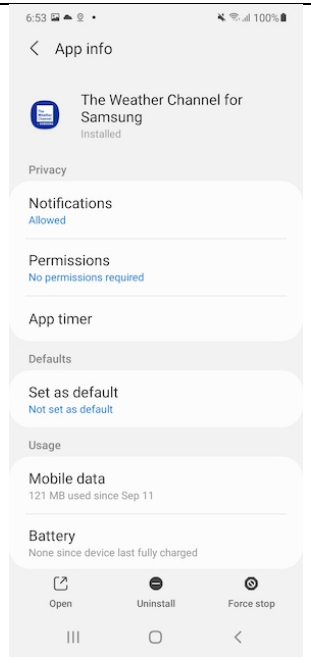
Exhibit A: Samsung's Infringement of United States Patent No. 8,510,407

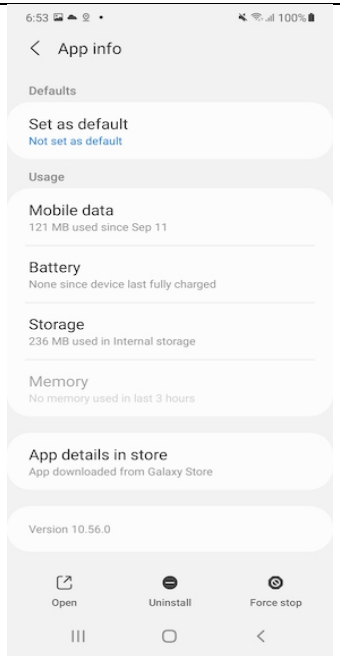




Tapping on the Weather Channel for Samsung app icon from the list in the image above displays additional detail as shown in the two images below (to shown the full scrollable elements of the screen). Note the additional information about storage, including the amount of data downloaded, and the notation "app downloaded from Galaxy Store".

Exhibit A: Samsung's Infringement of United States Patent No. 8,510,407





On information and belief, that Weather Channel for Samsung as well as the relevant data structures (*i.e.*, the NIM Template) of the APK are necessarily stored on the electronic storage of the Accused Instrumentalities during the process of installing the app. Thus, the Accused Instrumentalities includes one or more computer modules configured to store the networked information monitor template to the electronic storage.

Furthermore, on information and belief, code, which is not publicly available, on the Accused Instrumentalities and apps will demonstrate that there are one or more computer program modules are further configured to store the networked information monitor template to the electronic storage. Additionally, on information and belief, all variations of the Accused Instrumentalities operate in the same infringing manner.

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13. A computer-implemented method of accessing content over a network on a client computing device, the client computing device having electronic storage and one or more processors configured to execute one or more computer program modules, the client method comprising:	DoDots currently does not take a position as to whether the preamble of claim 13 is limiting. Notwithstanding this position, Samsung executes, operates, uses, sales, offers for sale, markets, and has direct control over a computer-implemented method of accessing content over a network on a client computing device. Specifically, the client computing devices includes, but are not limited to the Samsung Galaxy Z Series Mobile Phones, Galaxy S Series Mobile Phones, Galaxy Note Series Mobile Phones, Galaxy A Series Mobile Phones, Galaxy M Series Mobile phones, and Galaxy Tab Series Tablets (collectively, "Accused Samsung Devices"). DoDots reserves the right to identify additional client computing devices to the extent additional devices are revealed during discovery. Examples of the Galaxy S Series Mobile Phones are seen in the image below:  Source: Dolcourt, et. al., *Here's every Galaxy S phone since 2010*, CNET Website (February 8, 2019) (accessed at (https://www.cnet.com/pictures/evolution-history-samsung-galaxy-phones/) Additionally, with each Accused Samsung Devices, Samsung launched and continues to operate, use, and sell an operating system customized from the Android OS (e.g. Android OS12, OS 11, QOS 10, Pie (9.0),Oreo (8.0), Nougat (7.0), Marshmallow (6.0), Lollipop (5.0), KitKat (4.4), Jellybean (4.3, 4.2 and 4.1), Ice Cream Sandwich (4.0), Honeycomb (3.0), Gingerbread (2.3), Froyo (2.2), Éclair (2.1), Donut (1.6)

Exhibit A: Samsung's Infringement of United States Patent No. 8,510,407

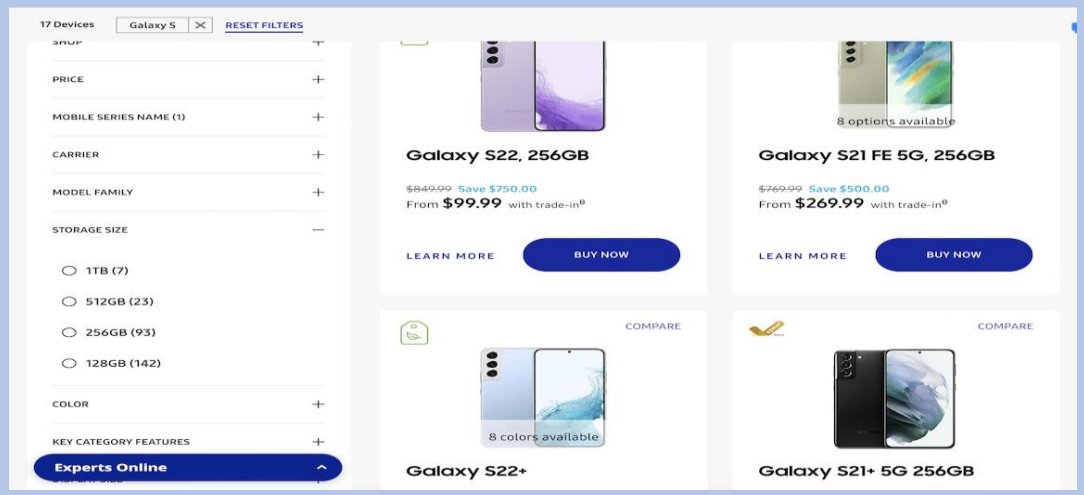
	(collectively, "the Samsung OS") along with other software (e.g., installers, the Play Store app, and the Galaxy App Store app) that are pre-installed or updated on each Accused Samsung Device (the "Accused Samsung Software"). Samsung programmed, customized, preinstalled, and developed the Accused Samsung Software specifically for its Accused Samsung Devices and is directly responsible for and has direct control over the use of the Samsung OS along with other software In summary, the Samsung OS along with other software operating on the Accused Samsung Devices (collectively, the "Accused Instrumentalities") constitute the computer-implemented method of accessing content over a network on a client computing device. Furthermore, in the image below, various versions of the Samsung devices are show with storage capacity. Thus, the Accused Instrumentalities include **a client computing device having electronic storage** 

Exhibit A: Samsung's Infringement of United States Patent No. 8,510,407

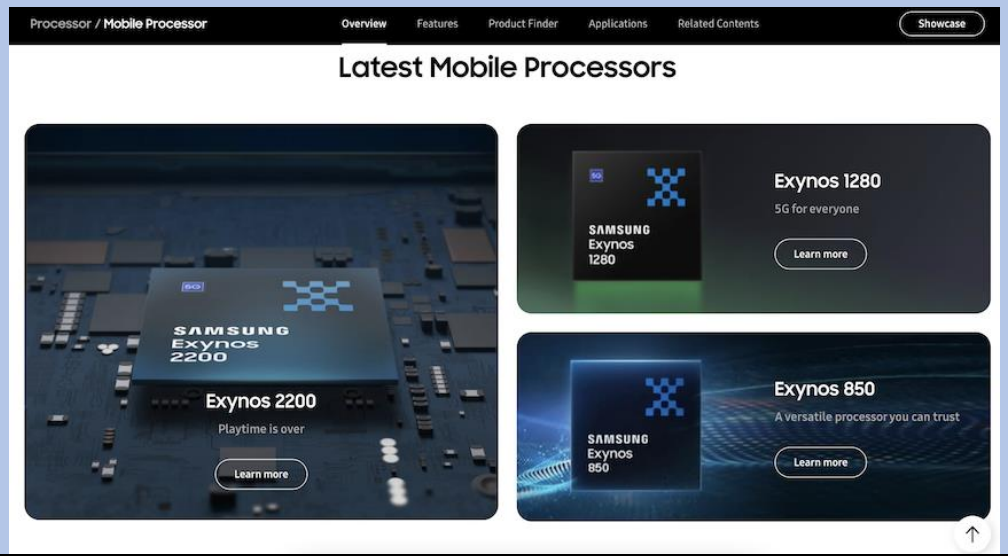
	Additionally, the Accused Instrumentalities have one or more processors configured to execute one or more computer program modules, the one or more computer program modules being configured to access the networked information monitor defined by the networked information monitor template. The Samsung Exynos or Qualcomm Snapdragon processors are used through the Samsung product line to execute one or more program modules to access the networked information monitor, defined by the networked information monitor template. In the evidence below, the Samsung web page details the Samsung Exynos processors used in the Accused Samsung Devices. 

Exhibit A: Samsung's Infringement of United States Patent No. 8,510,407

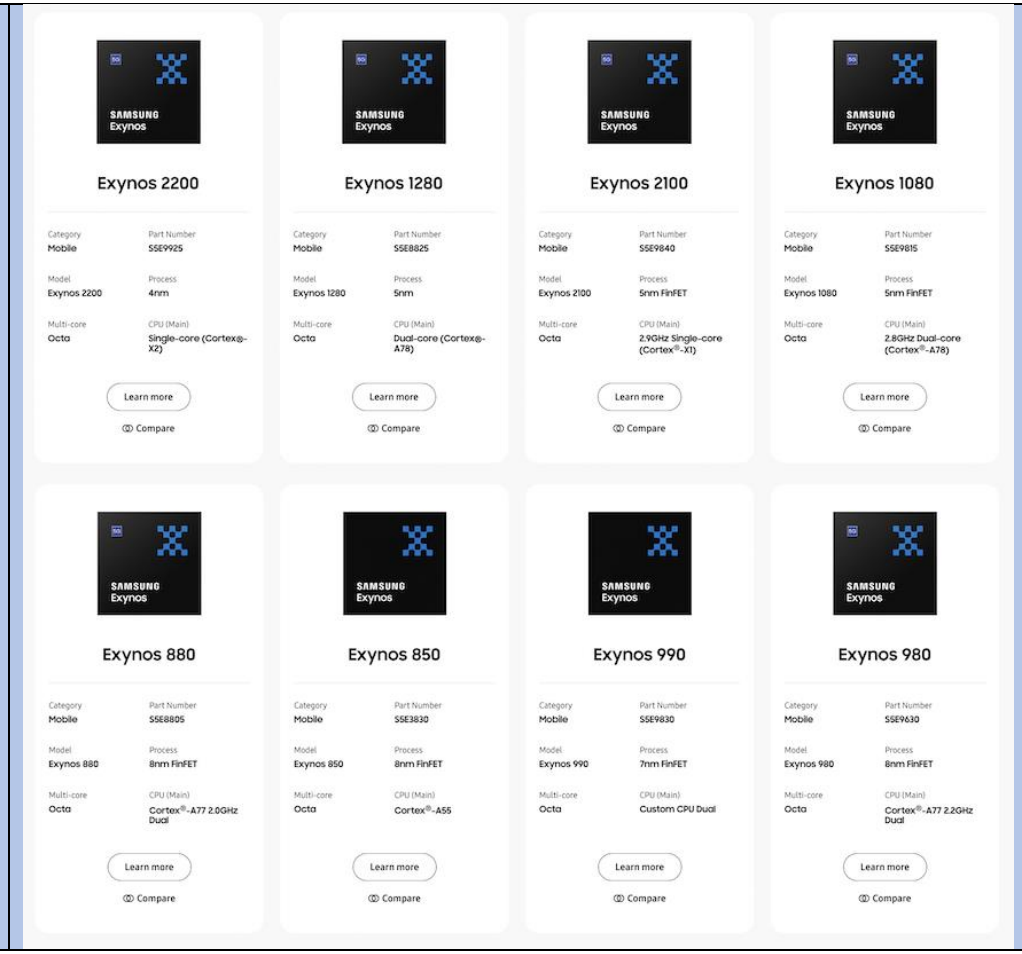


Exhibit A: Samsung's Infringement of United States Patent No. 8,510,407

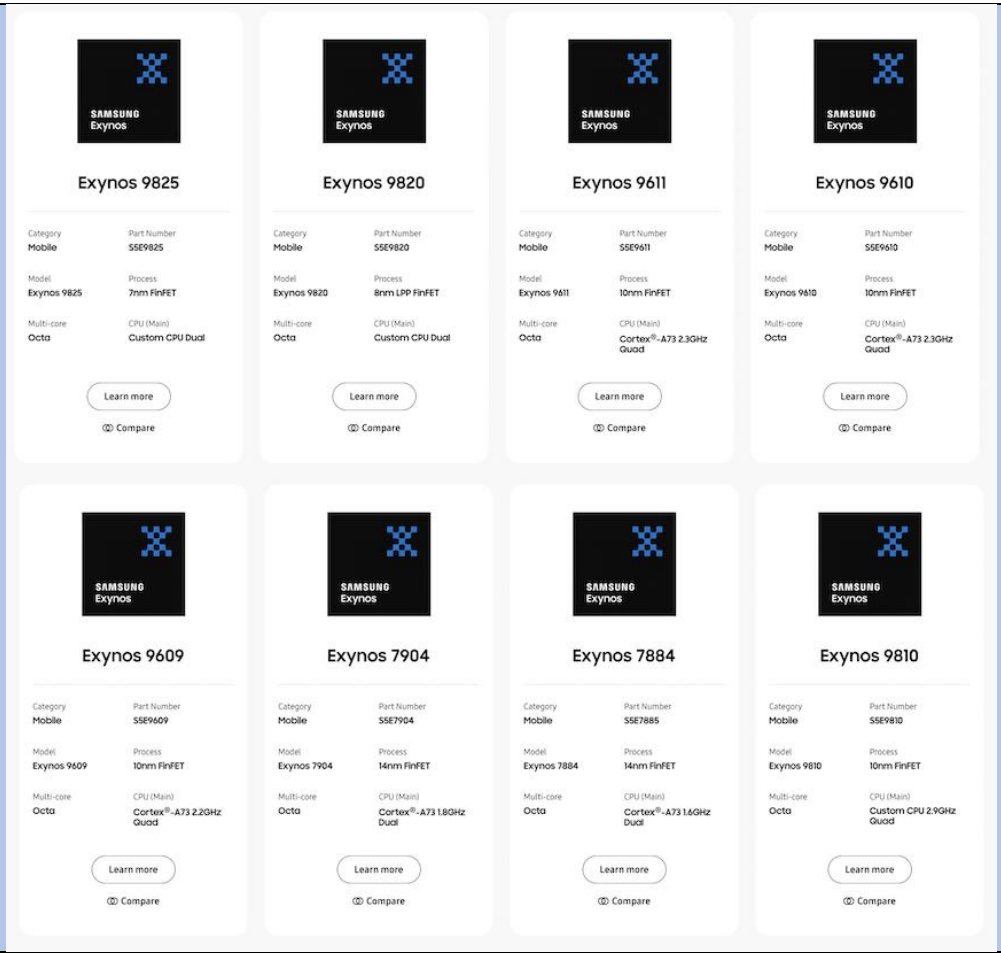
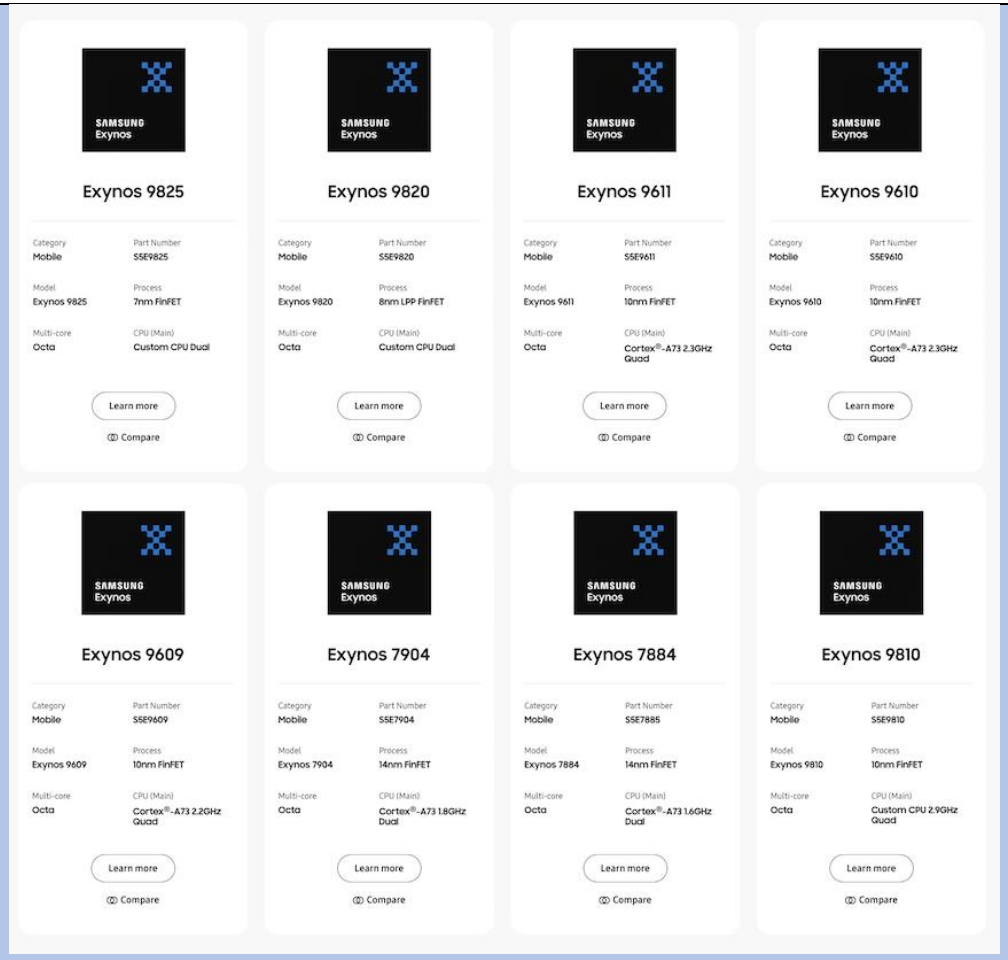


Exhibit A: Samsung's Infringement of United States Patent No. 8,510,407



References:

- https://en.wikipedia.org/wiki/Samsung_Galaxy_S20
- https://semiconductor.samsung.com/processor/mobile-processor/
- https://android.fandom.com/wiki/List_of_Samsung_Galaxy_devices

	Furthermore, on information and belief, code, which is not publicly available, on the Accused Instrumentalities and apps will demonstrate that there are client computing device having electronic storage and one or more processors configured to execute one or more computer program modules. Additionally, on information and belief, all variations of the Accused Instrumentalities operate in the same infringing manner.
storing, to the electronic storage, a networked information monitor template associated with a networked information monitor, the networked information monitor template having therein a definition of a viewer graphical user interface having a frame within which time-varying content in a web	The Accused Instrumentalities stores, to the electronic storage, a networked information monitor template associated with a networked information monitor, the networked information monitor template having therein a definition of a viewer graphical user interface having a frame within which time-varying content in a web browser-readable language may be presented on a display associated with the client computing device, wherein the frame of the viewer graphical user interface lacks controls for enabling a user to specify a network location at which content for the networked information monitor is available. With regards to s**toring to the electronic storage,** by looking into the settings of the Accused Instrumentalities and tapping on Battery and Device Care; then tapping on 'Storage' the electronic storage summary is displayed as shown in the image below left. Tapping on the 'Apps' button displays the storage used for each NIM template. Notice that the Weather Channel for Samsung app uses 192MB of storage after downloaded as shown below right.

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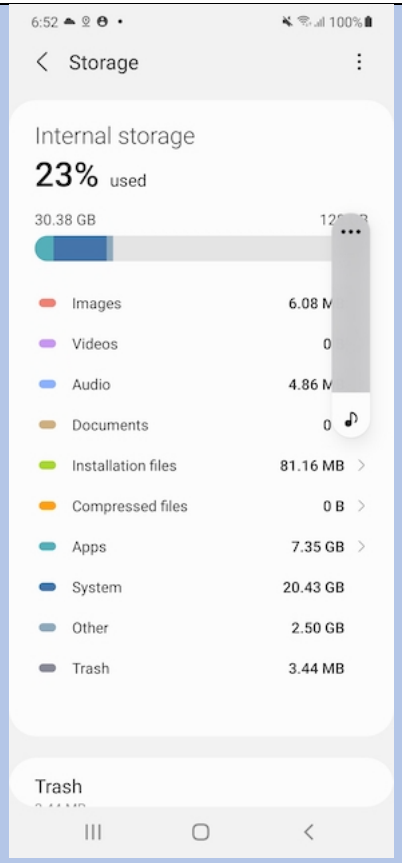
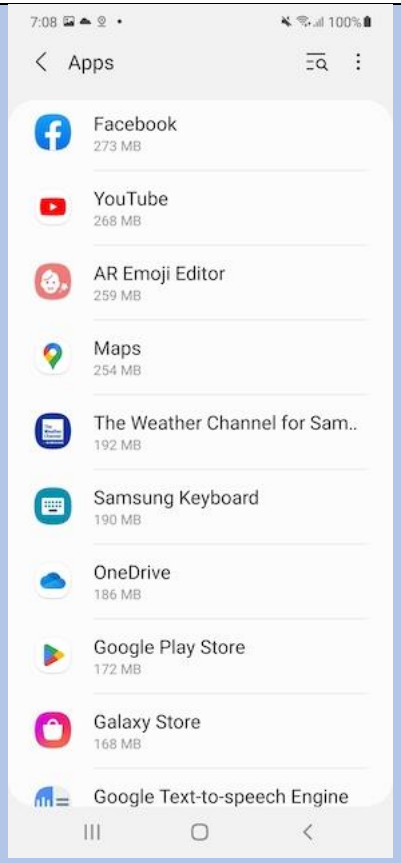
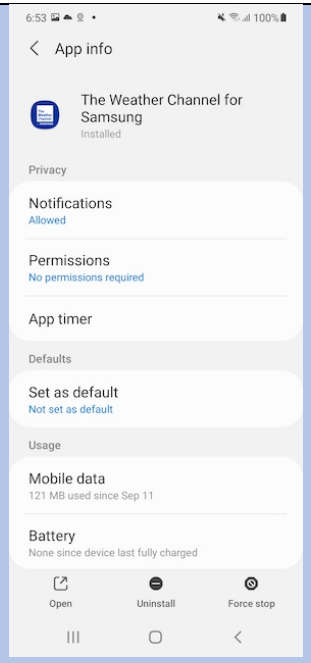
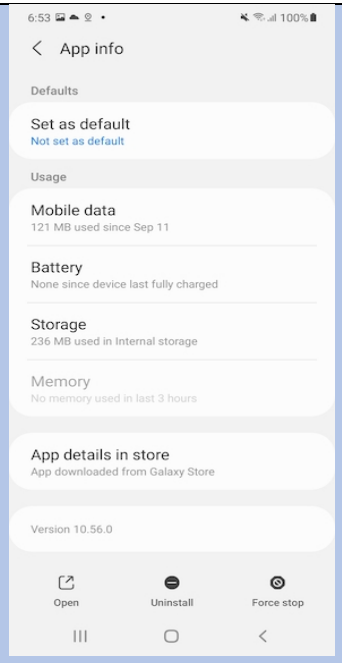
browser-readable language may be presented on a display associated with the client computing device, wherein the frame of the viewer graphical user interface lacks controls for enabling a user to specify a network location at which content for the networked information monitor is available	  Tapping on the Weather Channel for Samsung app icon from the list in the image above displays additional detail as shown in the two images below (to shown the full scrollable elements of the screen). Note the additional information about storage, including the amount of data downloaded, and the notation "app downloaded from Galaxy Store".

Exhibit A: Samsung's Infringement of United States Patent No. 8,510,407





On information and belief, that Weather Channel for Samsung as well as the relevant data structures (*i.e.*, the NIM Template) of the APK are necessarily stored on the electronic storage of the Accused Instrumentalities. The data structures includes **definition of a viewer graphical user interface having a frame**. In particular, the data structures in the APK are used to define a viewer graphical user interface (*e.g.*, a user interface presented on the screen) that may include menus, buttons, and other features.

The data structures in APK files for each Samsung-Supported App contains the files related to the visual presentation of the application, as suggested by Android developer guides, and seen in the excerpt below:

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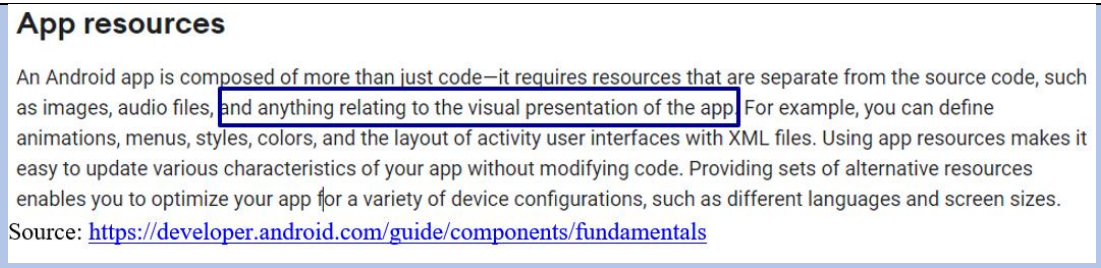

App resources

An Android app is composed of more than just code—it requires resources that are separate from the source code, such as images, audio files, and anything relating to the visual presentation of the app. For example, you can define animations, menus, styles, colors, and the layout of activity user interfaces with XML files. Using app resources makes it easy to update various characteristics of your app without modifying code. Providing sets of alternative resources enables you to optimize your app for a variety of device configurations, such as different languages and screen sizes.

Source: https://developer.android.com/guide/components/fundamentals

Indeed, in Android development the UI is typically built using "Layouts" which define 'Views" which are defined in XML and generally create elements the user can view and/or interact with.

- "A layout defines the structure for a user interface in your app, such as in an activity. All elements in the layout are built using a hierarchy of View and ViewGroup objects. A View usually draws something the user can see and interact with."

And, according to the Android documentation these elements are created with XML:

- *"Declare UI elements in **XML.** Android provides a straightforward **XML** vocabulary that corresponds to the View classes and subclasses, such as those for widgets and layouts.*

  You can also use Android Studio's Layout Editor to build your XML layout using a drag-and-drop interface."
- *"Declaring your UI in XML allows you to separate the presentation of your app from the code that controls its behavior. Using XML files also makes it easy to provide different layouts for different screen sizes and orientations"*
- *"The Android framework gives you the flexibility to use either or both of these methods to build your app's UI. For example, you can declare your app's default layouts in XML, and then modify the layout at runtime."*

Exhibit A: Samsung's Infringement of United States Patent No. 8,510,407

- *"Write the XML. Using Android's XML vocabulary, you can quickly design UI layouts and the screen elements they contain, in the same way you create web pages in HTML"*

This frame generated by the NIM Template may be used to display **time-varying content in a web browser-readable language on a display associated with the client computing device.** For example, upon installation of the "Weather Channel for Samsung" app, a splash screen can be seen with the message 'Still waiting for server…' as it loads data to display.

Exhibit A: Samsung's Infringement of United States Patent No. 8,510,407

Upon loading this data, the screen shows the time-varying content for the weather based on the current date and for the location of the phone, as shown below. Note 'San Bruno' in the header on the image below left. Tapping on the header displays the current location with an option to set the location to another city or zip code, below right.

Furthermore, the time-varying content is displayed in a frame of the viewer graphical user interface that **lacks controls for enabling a user to specify a network location at which content for the networked**

	information monitor is available. Put another way, a user is unable to designate which server the weather information should be downloaded. Furthermore, on information and belief, code, which is not publicly available, on the Accused Instrumentalities and apps will demonstrate that the networked information monitor template having therein a definition of a viewer graphical user interface having a frame within which time-varying content in a web browser-readable language may be presented on a display associated with the client computing device, wherein the frame of the viewer graphical user interface lacks controls for enabling a user to specify a network location at which content for the networked information monitor is available. Additionally, on information and belief, all variations of the Accused Instrumentalities operate in the same infringing manner.
accessing the networked information monitor defined by the networked information monitor template, wherein accessing the networked information monitor defined by the networked information monitor template results in:	The Accused Instrumentalities further **access the networked information monitor defined by the networked information monitor template** As discussed above, running the Samsung Test App displays the content from: fennetic.net/irc/finney.org/~hal/home.html as shown below.

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Monitoring the network traffic during the load of this content reveals that a network request was initiated over TCP/IP and content was received as shown in the image below of the 'Network Inspector' analysis tool which is part of the Android Studio development suite. The transmission and receipt of the information demonstrates that there are one or more computer modules configure **such that accessing the networked information monitor defined by the networked information monitor template .**

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	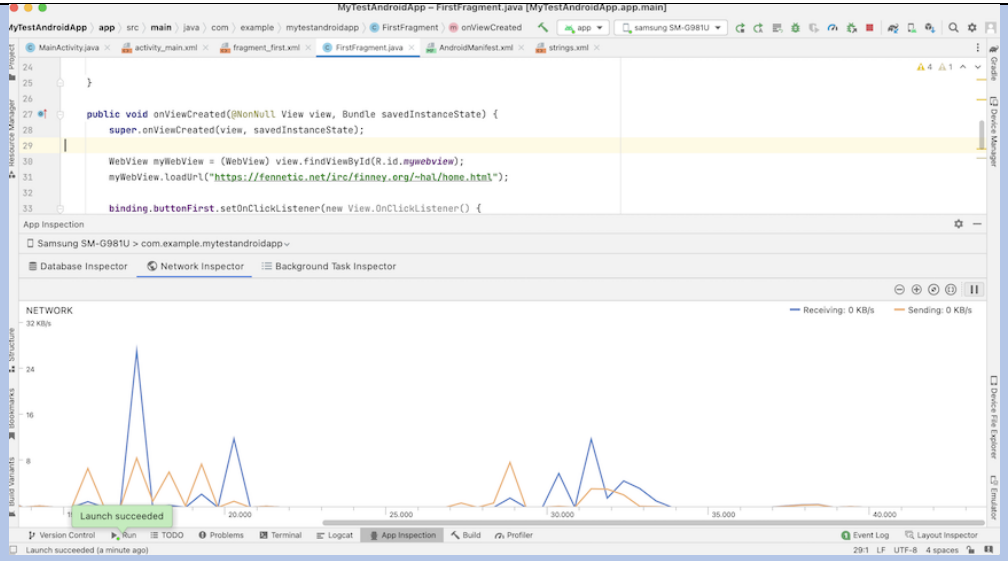
transmission, over a network to a web server at a network location, of a content request for content to be displayed in the viewer graphical user interface defined by the networked information monitor template	The Accused Instrumentalities transmit, over a network to a web server at a network location, a content request for content to be displayed within the frame of the viewer graphical user interface defined by the networked information monitor template. For example, using an Android app created through Android Studio, Android's development environment, a URL embedded was embedded in an exemplary NIM Template. Specifically, fennetic.net/irc/finney.org/~hal/home.html Upon running the NIM on one of the Accused Instrumentalities, the following content was displayed

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Display of this information confirms that the Accused Samsung Devices transmit over a network to a web server at a network location, of a content request for content to be displayed within the frame of the viewer graphical user interface defined by the networked information monitor template.

In fact, monitoring the network traffic during the load of this content reveals that a network request was initiated and content was received as shown in the image below of the 'Network Inspector' analysis tool

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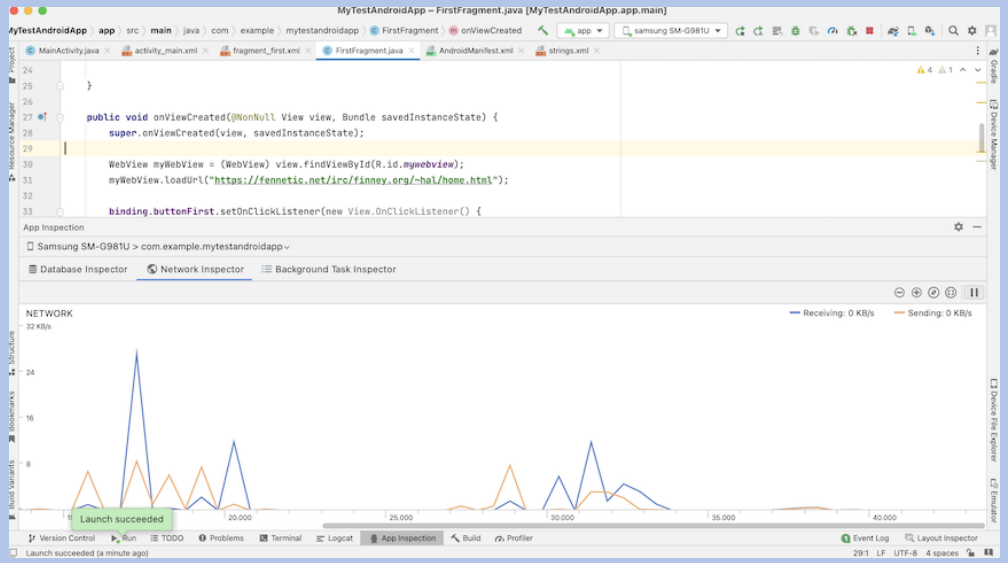
which is part of the Android Studio development suite. This monitoring shows that the Accused Samsung Devices transmit over a network to a web server at a network location a content request. And the display of the App shows that that content requests includes a request for content to be displayed within the frame of the viewer graphical user interface defined by the networked information monitor template.



Furthermore, that the above network activity confirms that the content request was exchanged over a network serve the ability to be display the frame above further confirms that the content can be displayed within the frame of the viewer graphical user interface defined by the networked information monitor template. And, the content is the HTML of the data on the server that was transferred over the network to display the view shown in the 'Hal Finney Home Page' image above.

```
<http>
<head><TITLE>Hal Finney Home Page</TITLE></head>
<body>
<H1>Hal Finney Home Page</H1>
<IMG SRC="hal1.gif" align=center width=135 height=181>
<p>
<H2>Bio</H2>
```

Exhibit A: Samsung's Infringement of United States Patent No. 8,510,407

	Born May 4, 1956. BS Engineering 1979, California Institute of Technology. Married, two children. <hr> <H2>PGP</H2> I was one of the original programmers on PGP version 2.0, working directly with Philip Zimmermann, author of the program. <p> Today, I work for <A href="www.pgp.com">PGP Corporation.</A>, developing crypto library components. <H2>RPOW</H2> I recently created the RPOW.NET server for accumulating and exchanging Reusable Proofs of Work. See that link for more information on the concepts behind this unusual service. <H2>SSL Challenge</H2> In August, 1995 I submitted a challenge to the cryptographic community to try breaking a sample web browsing session run in secure mode using Netscape's Secure Socket Layer (SSL) protocol. Both <A href="sslchallong.html">long</A> and <A href="sslchal.html">short</A> versions of the challenge document are available. The challenge was broken in short order. Look for more information on the <A href="/web/20130624115154/http://pauillac.inria.fr/~doligez/ssl/announce.txt"> SSL Challenge Break</A>. <P> <H2>Old Essays</H2> These are some essays I wrote for publication on the Cypherpunks list back in the early to mid 1990s. <H3>PGP</H3> Phil Zimmermann's public-key encryption program PGP has excited tremendous interest in cryptography. <DL> <DT> <A HREF="stealth_pgp.html"> Truly Stealthy PGP</A> <DD> For some applications PGP may stick out like a sore thumb. A variant known as "Stealth PGP" makes it less conspicuous, but the "stealthiness" is less than perfect. This article analyzes what would be necessary to make it truly stealthy. <DT> <A HREF="pgp_math_lib.html"> PGP Math Library Docs</A> <DD> Documentation on how the math functions in PGP's math library work. <DT> <A HREF="web_of_trust.html"> PGP Web of Trust</A> <DD> PGP's "web of trust" is the source of many misconceptions. Will this model be adequate for large-scale usage on the global nets? </DL> <H3>Digital Cash</H3> <DL> <DT> <A HREF="chcash2.html"> Chaum's Cash System</A> <DD> This writeup attempts to describe the mathematics behind the basic Digital Cash system from David Chaum et al. How can honest users of the system keep their anonymity while cheaters who double-spend are exposed? This essay has been widely republished

Exhibit A: Samsung's Infringement of United States Patent No. 8,510,407

	on the net. <DT> <A HREF="dig_cash_priv.html"> Digital Cash and Privacy</A> <DD> Digital cash could play an important role in protecting privacy in a world where more and more transactions will take place electronically. <DT> <A HREF="anti_observers.html"> Problems with Observers</A> <DD> Recent digital cash proposals from David Chaum and affiliated researchers include the notion of an "observer" chip which resides in the digital "wallet" and makes sure that no double-spending occurs. This essay criticizes this approach. <DT> <A HREF="beauty_ecash.html"> The Beauty of Ecash</A> <DD> A somewhat facetious essay about the joy of collecting electronic cash. Admire the unique beauty of each digital banknote! <DT> <A HREF="netcash_crit.html"> Criticism of NetCash</A> <DD> A group with USC/ISI has produced a digital cash proposal called NetCash. I describe some fundamental problems with their system. <DT> <A HREF="chaum_patents.html"> Blind Signature Patents</A> <DD> Digital cash is heavily patented. These are the results of a patent search on the blind signatures which are the foundation of digital cash algorithms. </DL> <H3>Anonymous Remailers</H3> At one time I operated two anonymous remailers. (For more information and a list of remailers look <A HREF="/web/20130624115154/http://www.cs.berkeley.edu/~raph/remailer-list.html"> here</A>.) These articles discuss some technical and social issues raised by these controversial services.<P> <DL> <DT> <A HREF="why_rem1.html"> Why Remailers I</A> <DD> One of the first articles I wrote explaining how I became interested in cryptography in general and remailers in particular. What is the role of anonymous remailers in a society which uses cryptography to protect privacy? <DT> <A HREF="why_rem2.html"> Why Remailers II</A> <DD> A more wide-ranging discussion of the roles remailers can play. <DT> <A HREF="pay_remail.html"> For-Pay Remailers</A> <DD> What if remailers charged per message? How much should they charge, and how would it affect ease of use? Includes a

Exhibit A: Samsung's Infringement of United States Patent No. 8,510,407

	<A HREF="pay_remail.html#payment"> discussion of four different Internet payment systems</A> and an evaluation of their suitability for this purpose. <DT> <A HREF="remailer_abuse.html"> Remailer Abuse Prevention</A> <DD> How can abuse of remailers be dealt with when the abusers themselves are anonymous to the remailer operators? The "credential" notion of David Chaum applies to this situation. Plus, the existing "Magic Money" code could be easily adapted to this purpose. <DT> <A HREF="is_a_person.html"> Is-A-Person Credentials</A> <DD> Not directly related to remailers, but this is a further description of the notion of "credentials", similar to my suggestion above for remailer abuse prevention. </DL> <H3>Politics</H3> Unlike many early Cypherpunks, I never viewed cryptography as a gateway to a libertarian society. My goals are more modest but still worthwhile, I hope. <DL> <DT> <A HREF="pol_v_tech.html"> Politics vs Technology</A> <DD> Will cryptographic technology by itself be enough to bring about changes sufficient to ensure privacy? Or will political struggle continue to be necessary? <DT> <A HREF="steg_no_soln.html"> Steganography no Solution</A> <DD> Steganography is the art of hiding messages in innocuous data. Even in the face of harsh crackdowns it should still be possible to send messages using this technology. Does that imply that restrictions on cryptography are doomed? <DT> <A HREF="liberty_demo.html"> Liberty and Democracy</A> <DD> A short note describing the fundamental reason why democracy makes sense. </DL> </body> </http> Furthermore, on information and belief, code, which is not publicly available, on the Accused Instrumentalities and apps will demonstrate transmission, over a network to a web server at a network location, of a content request for content to be displayed within the frame of the viewer graphical user

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	interface defined by the networked information monitor template. Additionally, on information and belief, all variations of the Accused Instrumentalities operate in the same infringing manner**.**
reception, over the network from the web server at the network location, of content transmitted from the web server in response to the content request, the content being time-varying;	The Accused Instrumentalities receive, over the network from the web server at the network location, content transmitted from the web server in response to the content request, the content being time-varying. Note that upon first use of the Weather Channel App for Samsung, the device prompts you for permission to get location info so it can provide up-to-date weather for your current location. The message below shows the prompt provided if the user settings are not set appropriately. The image on the right displays the settings for this app.

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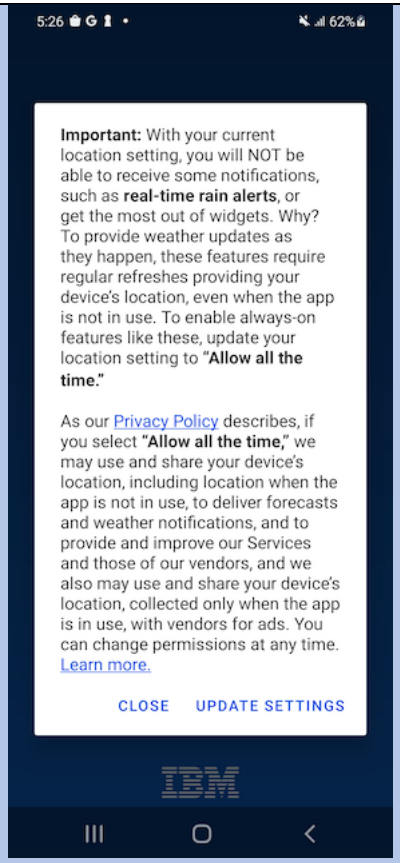

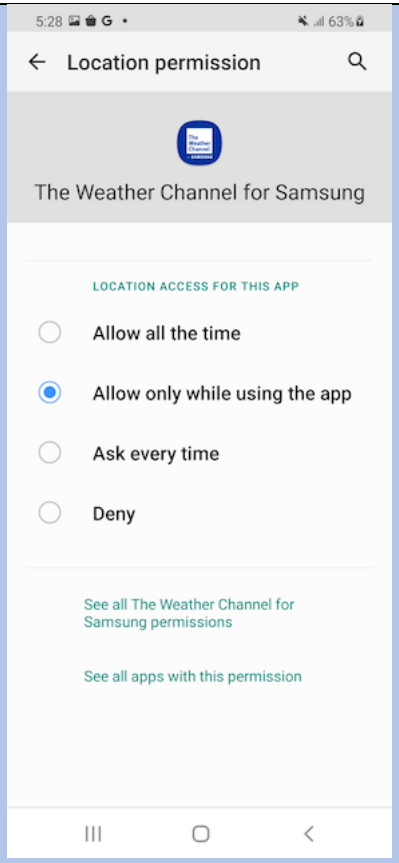

And with these settings, there is evidence of **reception over the network from the web server at the network location, of content transmitted from the web server** below. In particluare the image below shows how the app automatically determines the user location and displays time-varying weather content for the current location, as shown in the two screenshots below.

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	 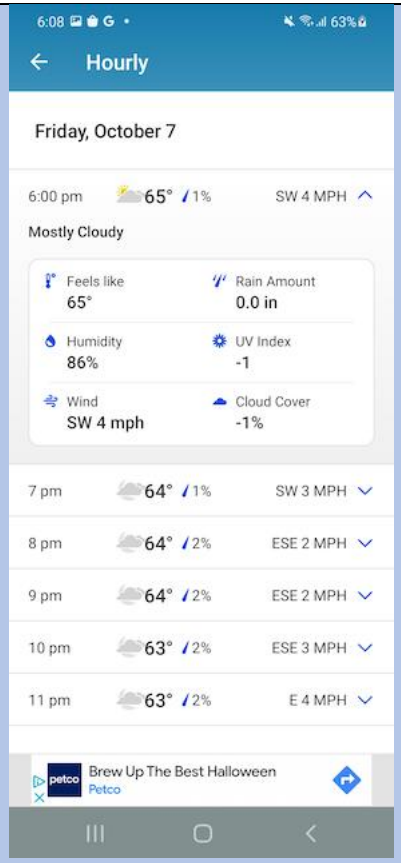 Furthermore, on information and belief, code, which is not publicly available, on the Accused Instrumentalities and apps will demonstrate reception, over the network from the web server at the network location, of content transmitted from the web server in response to the content request, the content being time-varying. Additionally, on information and belief, all variations of the Accused Instrumentalities operate in the same infringing manner.
presentation, on the display, of the	The Accused Samsung Devices present, on the display, of the viewer graphical user interface defined by the application media package template outside of and separate from any graphical user interface of any

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viewer graphical user interface defined by the application media package template outside of and separate from any graphical user interface of any other application; and	other application. Note, the term application media package template is a typographical error, and should read networked information monitor template. The image below left shows the Weather Channel App for Samsung in a full sized frame, while the image on the right is a widget that is displayed in smaller frame with a transparent background. That display evinces the "**presentation, on the display**." Furthermore, this display of information, on the left, demonstrates the ability to present in formation on the visual graphical user interface "**outside of and separate from any graphical user interface of any other application."** Notably, the information in both examples are separate from the GUI of any other app being run by the accused Samsung device. This demonstrates that the frame is **outside of and separate from any graphical user interface of any other application.**

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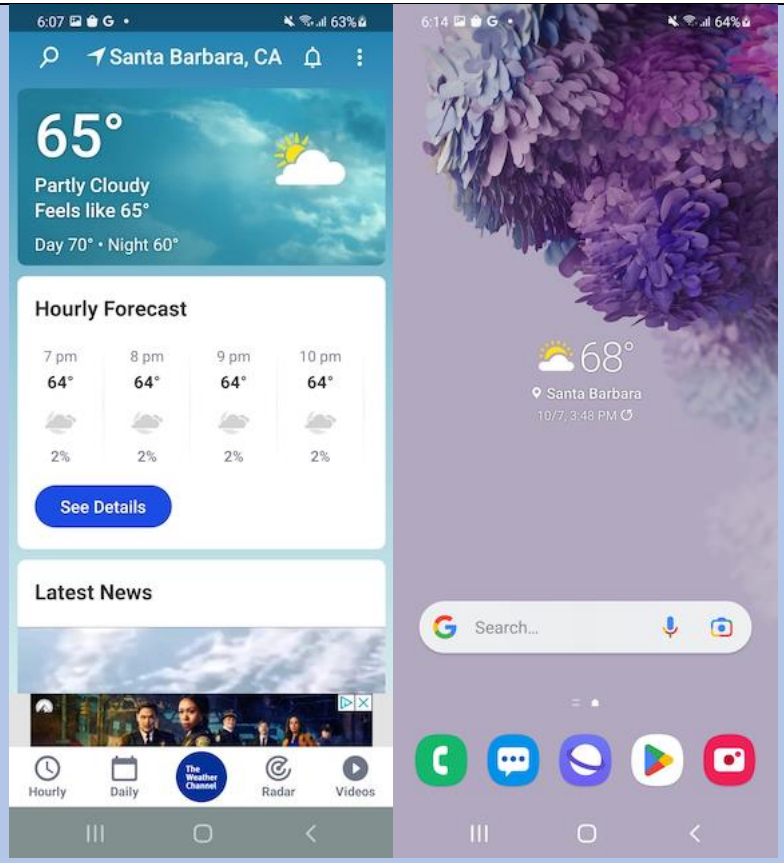

Furthermore, on information and belief, code, which is not publicly available, on the Accused Instrumentalities and apps will demonstrate reception presentation, on the display, of the viewer graphical user interface defined by the networked information monitor template outside of and separate from any graphical user interface of any other application. Additionally, on information and belief, all variations of the Accused Instrumentalities operate in the same infringing manner.

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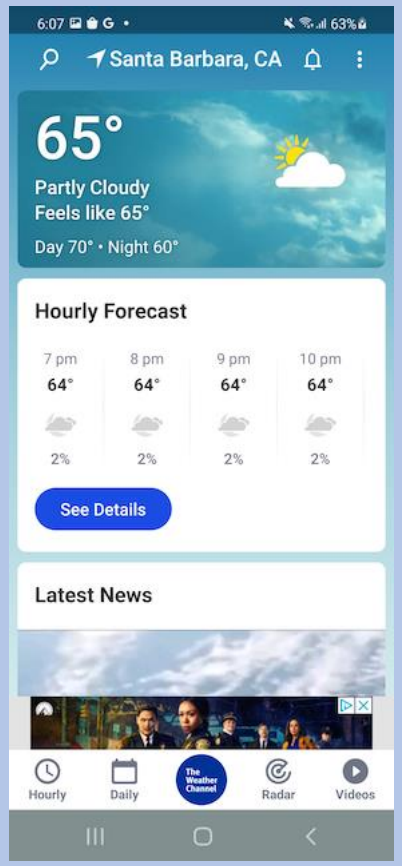
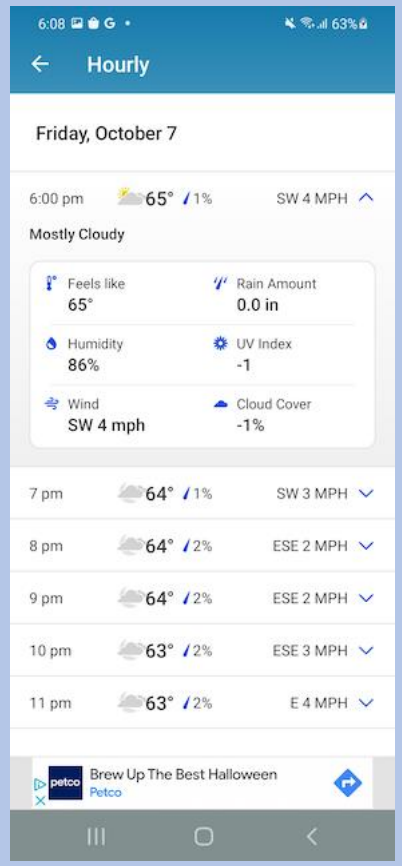
presentation, on the display within the frame of the viewer graphical user interface defined by the networked information monitor, of the time-varying content received from the web server.	The Accused Samsung Devices **present on the display within the frame of the viewer graphical user interface defined by the networked information monitor, the time-varying content received from the web server**. In particular, the weather data received from the network is shown within the app, as seen below. The exemplary **time-varying content** is the weather data.   Furthermore, on information and belief, code, which is not publicly available, on the Accused Instrumentalities and apps will demonstrate presentation, on the display within the frame of the viewer

	graphical user interface defined by the networked information monitor, of the time-varying content received from the web server. Additionally, on information and belief, all variations of the Accused Instrumentalities operate in the same infringing manner.
20. The method of claim 13, wherein the networked information monitor template includes a markup language file, and wherein storing the networked information monitor template comprises storing the markup language file.	For the reasons stated above, the Accused Instrumentalities meet the limitations of Claim 13. The Accused Instrumentalities have a networked information monitor template that includes a markup language file. In the following examples, the contents of a Samsung App show that a NIM template comprises XML files which are then encoded into a binary format to create the downloadable app. In Android development the UI is typically built using "Layouts" which define 'Views" which are defined in XML and generally create elements the user can view and/or interact with. • "A layout defines the structure for a user interface in your app, such as in an activity. All elements in the layout are built using a hierarchy of View and ViewGroup objects. A View usually draws something the user can see and interact with." According to the Android documentation these elements are created with XML: • *"Declare UI elements in **XML.** Android provides a straightforward **XML** vocabulary that corresponds to the View classes and subclasses, such as those for widgets and layouts.* *You can also use Android Studio's Layout Editor to build your XML layout using a drag-and-drop interface."* • *"Declaring your UI in XML allows you to separate the presentation of your app from the code that controls its behavior. Using XML files also makes it easy to provide different layouts for different screen sizes and orientations"* • *"The Android framework gives you the flexibility to use either or both of these methods to build your app's UI. For example, you can declare your app's default layouts in XML, and then modify the layout at runtime."*

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	• *"Write the XML. Using Android's XML vocabulary, you can quickly design UI layouts and the screen elements they contain, in the same way you create web pages in HTML"* When developing for Android using Android Studio, the user interface is defined by layouts in the XML. Once the application is ready for installation on a device, it is converted to an APK file which is a zipped file containing all the project resources. By renaming these files as zip files (changing the file extension from .apk to .zip) the files can be unzipped. After unzipping the apk file, the contents can be viewed as a directory as shown in the image below. Note the resources in the /res directory. These are images used for the UI as well as XML files defining the UI by the NIM template.

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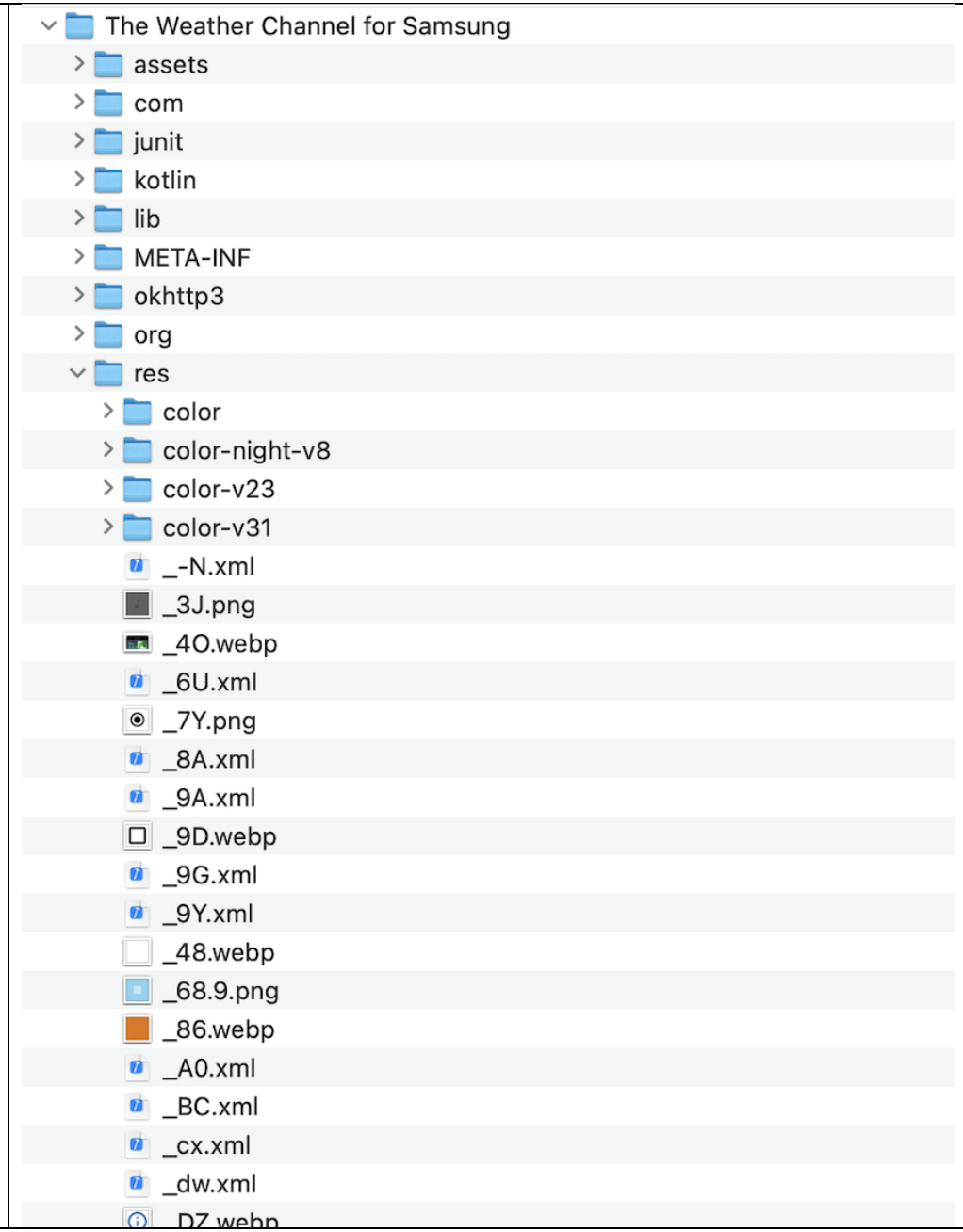
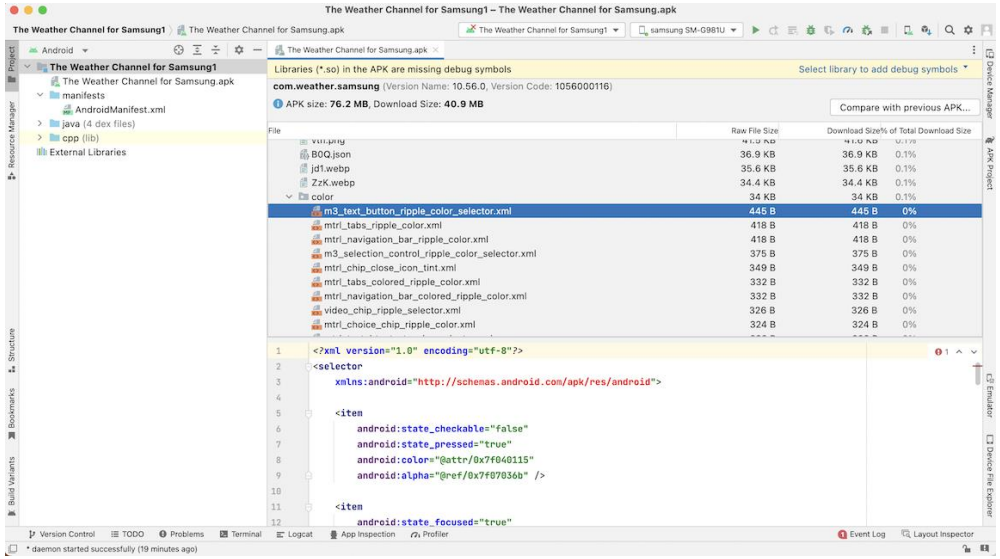


Exhibit A: Samsung's Infringement of United States Patent No. 8,510,407

	The XML files from the above directory listing are encoded in a binary format, however, the can be inspected using Android Studio. The APK files can be opened in Android Studio and inspected via the "*Profile or Debug APK*" feature. The .apk file for the Weather Channel App for Samsung can be opened using this capability which displays the contents of the NIM template as shown below.  Zooming in we can view the XML resource which defines the color of a UI element.

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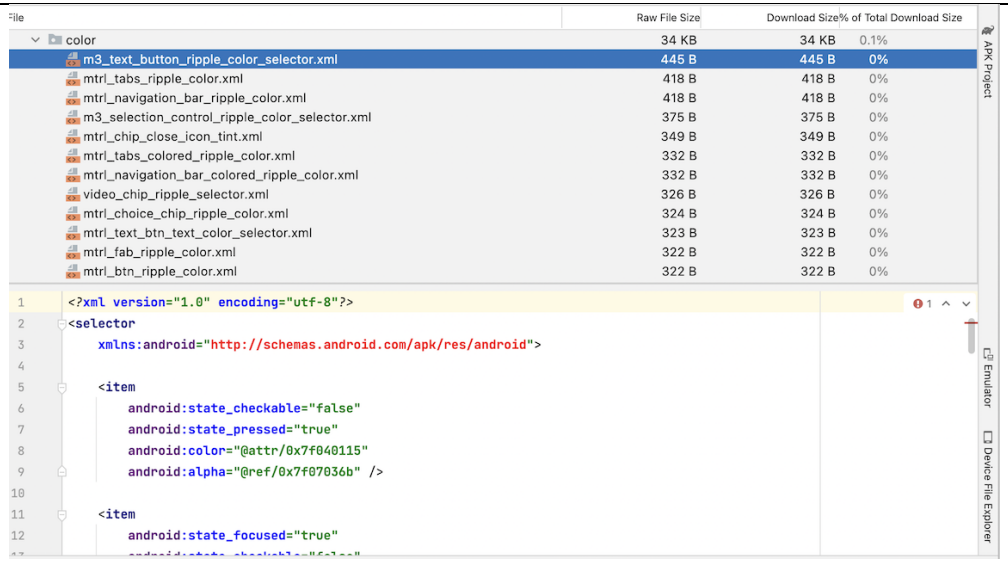


Images are also included. Note the inclusion of WebP (an image format) images as shown in the image below:

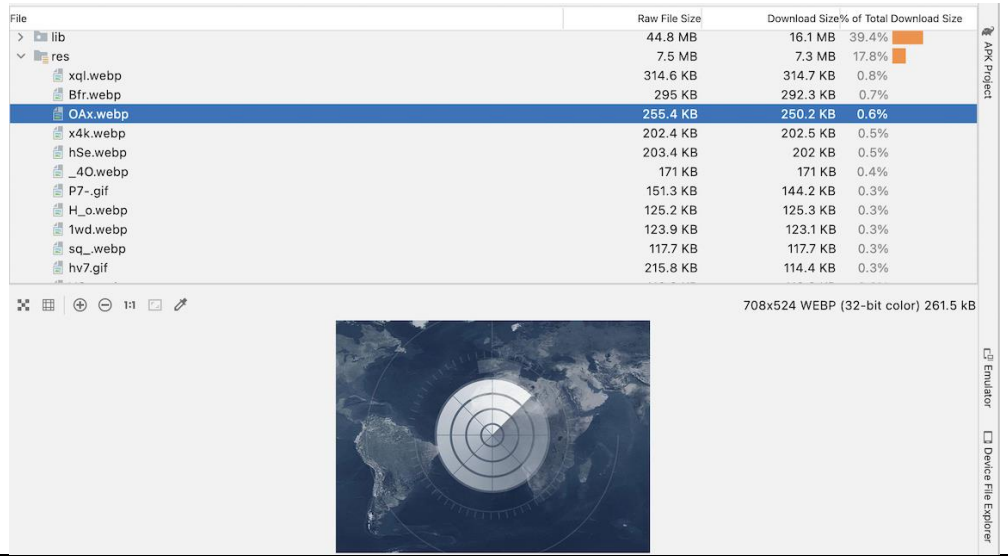
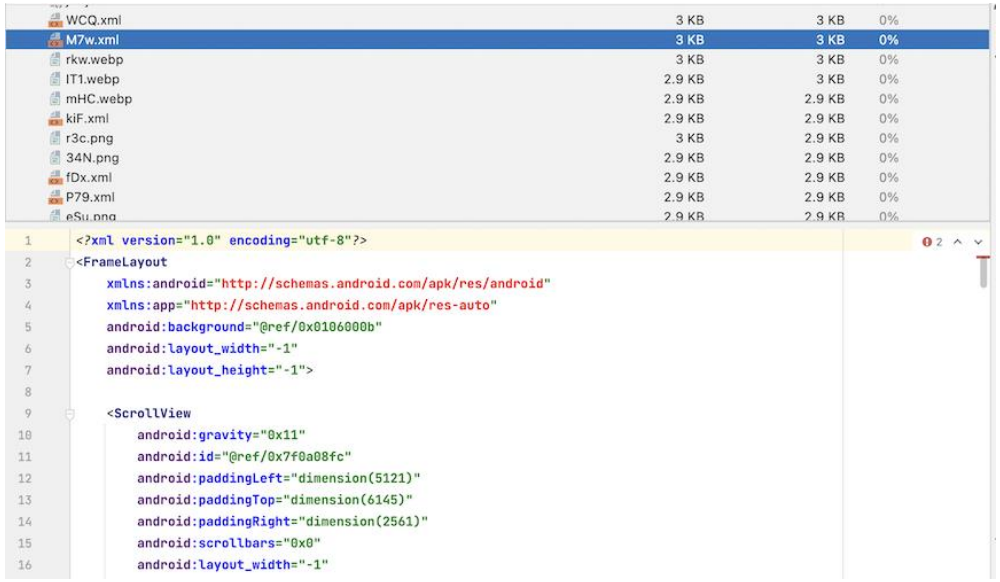


Exhibit A: Samsung's Infringement of United States Patent No. 8,510,407

References

- https://developer.android.com/develop/ui/views/layout/declaring-layout
- https://developer.android.com/studio/profile/apk-profiler
- https://developer.android.com/studio

In the following example, the XML resource defines a frame whose definition is part of the NIM template:



The contents of that XML file shows how the frame of the NIM Template on the Accused Samsung Device, defines various UI elements including the frame size, color and layouts of the various elements within this frame.

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```
<?xml version="1.0" encoding="utf-8"?>
<FrameLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    android:background="@ref/0x0106000b"
    android:layout_width="-1"
    android:layout_height="-1">

    <ScrollView
        android:gravity="0x11"
        android:id="@ref/0x7f0a08fc"
        android:paddingLeft="dimension(5121)"
        android:paddingTop="dimension(6145)"
        android:paddingRight="dimension(2561)"
        android:scrollbars="0x0"
        android:layout_width="-1"
        android:layout_height="-1">

        <androidx.constraintlayout.widget.ConstraintLayout
            android:orientation="1"
            android:id="@ref/0x7f0a08f4"
            android:paddingBottom="dimension(51201)"
            android:layout_width="-1"
            android:layout_height="-2">

            <TextView
                android:textSize="dimension(6146)"
                android:ellipsize="3"
                android:id="@ref/0x01020016"
                android:layout_width="-2"
                android:layout_height="-2"
                android:layout_marginLeft="dimension(1281)"
                android:layout_marginRight="dimension(1281)"
                android:text="@ref/0x7f120856"
                android:maxLines="2"
                android:layout_marginHorizontal="dimension(1281)"
                app:layout_constraintStart_toStartOf="0"
                app:layout_constraintTop_toTopOf="0"
                style="@ref/0x7f1306a7" />

            <TextView
                android:textSize="dimension(4098)"
                android:id="@ref/0x7f0a096f"
                android:layout_height="-2"
                android:layout_marginTop="dimension(1025)"
                android:text="@ref/0x7f1208bd"
                android:layout_marginStart="@ref/0x7f07064f"
                android:layout_marginEnd="@ref/0x7f07064e"
                app:layout_constrainedWidth="true"
                app:layout_constraintEnd_toEndOf="0"
                app:layout_constraintStart_toStartOf="0"
                app:layout_constraintTop_toBottomOf="@ref/0x01020016"
                style="@ref/0x7f1306a6" />
```

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```
<TextView
    android:id="@ref/0x7f0a0a2d"
    android:visibility="1"
    android:text="@ref/0x7f120290"
    app:layout_constraintEnd_toEndOf="@ref/0x7f0a0426"
    app:layout_constraintStart_toStartOf="@ref/0x7f0a096f"
    app:layout_constraintTop_toBottomOf="@ref/0x7f0a096f"
    style="@ref/0x7f13027c" />

<TextView
    android:id="@ref/0x7f0a042a"
    android:layout_marginTop="dimension(4097)"
    android:text="@ref/0x7f1202fd"
    android:labelFor="@ref/0x7f0a0427"
    app:layout_constraintStart_toStartOf="0"
    app:layout_constraintTop_toBottomOf="@ref/0x7f0a0a2d"
    style="@ref/0x7f1306a1" />

<com.google.android.material.card.MaterialCardView
    android:id="@ref/0x7f0a01c7"
    app:layout_constraintEnd_toStartOf="@ref/0x7f0a0426"
    app:layout_constraintStart_toStartOf="0"
    app:layout_constraintTop_toBottomOf="@ref/0x7f0a042a"
    style="@ref/0x7f1306a2">

    <EditText
        android:id="@ref/0x7f0a0427"
        android:maxLength="32"
        android:inputType="0x61"
        style="@ref/0x7f13069f" />
</com.google.android.material.card.MaterialCardView>

<ImageView
    android:id="@ref/0x7f0a0426"
    android:contentDescription="@ref/0x7f1208b2"
    app:layout_constraintBottom_toBottomOf="@ref/0x7f0a01c7"
    app:layout_constraintEnd_toEndOf="0"
    app:layout_constraintTop_toTopOf="@ref/0x7f0a01c7"
    style="@ref/0x7f1306a3" />

<TextView
    android:id="@ref/0x7f0a0429"
    android:visibility="1"
    android:layout_width="dimension(1)"
    android:text="@ref/0x7f1208b1"
    app:layout_constraintEnd_toEndOf="0"
    app:layout_constraintStart_toStartOf="0"
    app:layout_constraintTop_toBottomOf="@ref/0x7f0a01c7"
    style="@ref/0x7f1306a0" />

<TextView
    android:id="@ref/0x7f0a03b4"
    android:layout_marginTop="@ref/0x7f070642"
```

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```
            android:text="@ref/0x7f1208ad"
            android:labelFor="@ref/0x7f0a03b1"
            app:layout_constraintStart_toStartOf="0"
            app:layout_constraintTop_toBottomOf="@ref/0x7f0a0429"
            style="@ref/0x7f1306a1" />

        <com.google.android.material.card.MaterialCardView
            android:id="@ref/0x7f0a01c4"
            app:layout_constraintEnd_toStartOf="@ref/0x7f0a03b0"
            app:layout_constraintStart_toStartOf="0"
            app:layout_constraintTop_toBottomOf="@ref/0x7f0a03b4"
            style="@ref/0x7f1306a2">

            <EditText
                android:id="@ref/0x7f0a03b1"
                android:inputType="0x21"
                style="@ref/0x7f13069f" />
        </com.google.android.material.card.MaterialCardView>

        <ImageView
            android:id="@ref/0x7f0a03b0"
            android:contentDescription="@ref/0x7f1208af"
            app:layout_constraintBottom_toBottomOf="@ref/0x7f0a01c4"
            app:layout_constraintEnd_toEndOf="0"
            app:layout_constraintTop_toTopOf="@ref/0x7f0a01c4"
            style="@ref/0x7f1306a3" />

        <TextView
            android:id="@ref/0x7f0a03b3"
            android:layout_width="dimension(1)"
            android:text="@ref/0x7f1208ac"
            app:layout_constraintEnd_toEndOf="0"
            app:layout_constraintStart_toStartOf="0"
            app:layout_constraintTop_toBottomOf="@ref/0x7f0a01c4"
            style="@ref/0x7f1306a0" />

        <TextView
            android:id="@ref/0x7f0a0298"
            android:layout_marginTop="@ref/0x7f070642"
            android:text="@ref/0x7f1208a6"
            android:labelFor="@ref/0x7f0a0296"
            app:layout_constraintStart_toStartOf="0"
            app:layout_constraintTop_toBottomOf="@ref/0x7f0a03b3"
            style="@ref/0x7f1306a1" />

        <com.google.android.material.card.MaterialCardView
            android:id="@ref/0x7f0a01a9"
            app:layout_constraintEnd_toStartOf="@ref/0x7f0a0295"
            app:layout_constraintStart_toStartOf="0"
            app:layout_constraintTop_toBottomOf="@ref/0x7f0a0298"
            style="@ref/0x7f1306a2">

            <com.google.android.material.textfield.TextInputEditText
                android:id="@ref/0x7f0a0296"
```

Exhibit A: Samsung's Infringement of United States Patent No. 8,510,407

```
                android:longClickable="false"
                android:inputType="0x21"
                android:textIsSelectable="false"
                style="@ref/0x7f13069f" />
        </com.google.android.material.card.MaterialCardView>

        <ImageView
            android:id="@ref/0x7f0a0295"
            android:contentDescription="@ref/0x7f1208a8"
            app:layout_constraintBottom_toBottomOf="@ref/0x7f0a01a9"
            app:layout_constraintEnd_toEndOf="0"
            app:layout_constraintTop_toTopOf="@ref/0x7f0a01a9"
            style="@ref/0x7f1306a3" />

        <TextView
            android:id="@ref/0x7f0a0297"
            android:layout_width="dimension(1)"
            android:text="@ref/0x7f1208ac"
            app:layout_constraintEnd_toEndOf="0"
            app:layout_constraintStart_toStartOf="0"
            app:layout_constraintTop_toBottomOf="@ref/0x7f0a01a9"
            style="@ref/0x7f1306a0" />

        <TextView
            android:id="@ref/0x7f0a0703"
            android:layout_marginTop="@ref/0x7f070642"
            android:text="@ref/0x7f1208b8"
            android:labelFor="@ref/0x7f0a06fe"
            app:layout_constraintStart_toStartOf="0"
            app:layout_constraintTop_toBottomOf="@ref/0x7f0a0297"
            style="@ref/0x7f1306a1" />

        <androidx.cardview.widget.CardView
            android:id="@ref/0x7f0a01cf"
            app:layout_constraintEnd_toStartOf="@ref/0x7f0a06fd"
            app:layout_constraintStart_toStartOf="0"
            app:layout_constraintTop_toBottomOf="@ref/0x7f0a0703"
            style="@ref/0x7f1306a2">

            <com.google.android.material.textfield.TextInputLayout
                android:id="@ref/0x7f0a0701"
                android:layout_width="-1"
                android:layout_height="-2"
                app:hintEnabled="false"
                app:passwordToggleEnabled="true"
                app:passwordToggleTint="@ref/0x7f0601d2">

                <com.weather.Weather.ui.WeatherEditText
                    android:id="@ref/0x7f0a06ff"
                    android:maxLength="64"
                    app:passwordToggleEnabled="true"
                    app:passwordToggleTint="@ref/0x7f0601d2"
                    style="@ref/0x7f1303ff" />
            </com.google.android.material.textfield.TextInputLayout>
```

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```
</androidx.cardview.widget.CardView>

<ImageView
    android:id="@ref/0x7f0a06fd"
    android:contentDescription="@ref/0x7f1208bb"
    app:layout_constraintBottom_toBottomOf="@ref/0x7f0a01cf"
    app:layout_constraintEnd_toEndOf="0"
    app:layout_constraintTop_toTopOf="@ref/0x7f0a01cf"
    style="@ref/0x7f1306a3" />

<TextView
    android:textStyle="0x0"
    android:textColor="@ref/0x7f06048a"
    android:id="@ref/0x7f0a0704"
    android:visibility="0"
    android:layout_width="dimension(1)"
    android:text="@ref/0x7f120605"
    android:contentDescription="@ref/0x7f120606"
    app:layout_constraintBottom_toTopOf="@ref/0x7f0a0159"
    app:layout_constraintEnd_toEndOf="@ref/0x7f0a06fd"
    app:layout_constraintStart_toStartOf="0"
    app:layout_constraintTop_toBottomOf="@ref/0x7f0a01cf"
    style="@ref/0x7f1306a0" />

<TextView
    android:id="@ref/0x7f0a0700"
    android:visibility="2"
    android:layout_width="dimension(1)"
    android:text="@ref/0x7f120605"
    android:contentDescription="@ref/0x7f120606"
    app:layout_constraintBottom_toTopOf="@ref/0x7f0a0159"
    app:layout_constraintEnd_toEndOf="@ref/0x7f0a06fd"
    app:layout_constraintStart_toStartOf="0"
    app:layout_constraintTop_toBottomOf="@ref/0x7f0a01cf"
    style="@ref/0x7f1306a0" />

<androidx.constraintlayout.widget.Barrier
    android:id="@ref/0x7f0a0159"
    android:layout_width="-2"
    android:layout_height="-2"
    app:barrierDirection="3"
    app:constraint_referenced_ids="password_suggestion_textView,password_error_textView" />

<TextView
    android:id="@ref/0x7f0a02a0"
    android:layout_marginTop="@ref/0x7f070642"
    android:text="@ref/0x7f1208a9"
    android:labelFor="@ref/0x7f0a029b"
    app:layout_constraintStart_toStartOf="0"
    app:layout_constraintTop_toBottomOf="@ref/0x7f0a0159"
    style="@ref/0x7f1306a1" />

<androidx.cardview.widget.CardView
    android:id="@ref/0x7f0a01aa"
```

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```
                app:layout_constraintEnd_toStartOf="@ref/0x7f0a0299"
                app:layout_constraintStart_toStartOf="0"
                app:layout_constraintTop_toBottomOf="@ref/0x7f0a02a0"
                style="@ref/0x7f1306a2">

                <com.google.android.material.textfield.TextInputLayout
                    android:id="@ref/0x7f0a029e"
                    android:layout_width="-1"
                    android:layout_height="-2"
                    app:hintEnabled="false"
                    app:passwordToggleContentDescription="@ref/0x7f120602"
                    app:passwordToggleTint="@ref/0x7f0601d2">

                    <com.google.android.material.textfield.TextInputEditText
                        android:id="@ref/0x7f0a029b"
                        android:longClickable="false"
                        android:maxLength="64"
                        android:textIsSelectable="false"
                        app:passwordToggleContentDescription="@ref/0x7f120602"
                        app:passwordToggleTint="@ref/0x7f0601d2"
                        style="@ref/0x7f1303ff" />
                </com.google.android.material.textfield.TextInputLayout>
            </androidx.cardview.widget.CardView>

            <ImageView
                android:id="@ref/0x7f0a0299"
                android:contentDescription="@ref/0x7f1208ab"
                app:layout_constraintBottom_toBottomOf="@ref/0x7f0a01aa"
                app:layout_constraintEnd_toEndOf="0"
                app:layout_constraintTop_toTopOf="@ref/0x7f0a01aa"
                style="@ref/0x7f1306a3" />

            <TextView
                android:id="@ref/0x7f0a029d"
                android:layout_width="dimension(1)"
                android:text="@ref/0x7f1208b5"
                app:layout_constrainedWidth="true"
                app:layout_constraintEnd_toEndOf="0"
                app:layout_constraintStart_toStartOf="0"
                app:layout_constraintTop_toBottomOf="@ref/0x7f0a01aa"
                style="@ref/0x7f1306a0" />

            <TextView
                android:id="@ref/0x7f0a0457"
                android:layout_width="-2"
                android:layout_marginTop="@ref/0x7f070642"
                android:text="@ref/0x7f120332"
                android:labelFor="@ref/0x7f0a0454"
                app:layout_constraintStart_toStartOf="0"
                app:layout_constraintTop_toBottomOf="@ref/0x7f0a029d"
                style="@ref/0x7f1306a1" />

            <ImageView
                android:id="@ref/0x7f0a045b"
```

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```
        android:layout_width="dimension(4097)"
        android:layout_height="dimension(4097)"
        android:layout_marginTop="dimension(1025)"
        android:src="@ref/0x7f080274"
        android:contentDescription="@ref/0x7f1203a6"
        android:layout_marginStart="dimension(2561)"
        app:layout_constraintBottom_toBottomOf="@ref/0x7f0a0457"
        app:layout_constraintStart_toEndOf="@ref/0x7f0a0457" />

    <com.google.android.material.card.MaterialCardView
        android:id="@ref/0x7f0a01c8"
        app:layout_constraintEnd_toStartOf="@ref/0x7f0a0453"
        app:layout_constraintStart_toStartOf="0"
        app:layout_constraintTop_toBottomOf="@ref/0x7f0a0457"
        style="@ref/0x7f1306a2">

        <com.google.android.material.textfield.TextInputLayout
            android:id="@ref/0x7f0a0455"
            app:boxBackgroundColor="@ref/0x0106000d"
            app:boxStrokeWidth="dimension(1)"
            app:endIconDrawable="@ref/0x7f080228"
            app:endIconTint="@ref/0x7f0601d2"
            style="@ref/0x7f130402">

            <com.weather.Weather.ui.KeyValueDropDownView
                android:textColor="@ref/0x7f0604ff"
                android:id="@ref/0x7f0a0454"
                android:background="@ref/0x00000000"
                android:inputType="0x1"
                style="@ref/0x7f130400" />
        </com.google.android.material.textfield.TextInputLayout>
    </com.google.android.material.card.MaterialCardView>

    <ImageView
        android:id="@ref/0x7f0a0453"
        android:contentDescription="@ref/0x7f1208b3"
        app:layout_constraintBottom_toBottomOf="@ref/0x7f0a01c8"
        app:layout_constraintEnd_toEndOf="0"
        app:layout_constraintTop_toTopOf="@ref/0x7f0a01c8"
        style="@ref/0x7f1306a3" />

    <CheckBox
        android:gravity="0x30"
        android:id="@ref/0x7f0a08f3"
        android:paddingTop="dimension(769)"
        android:layout_width="-2"
        android:layout_height="-2"
        android:layout_marginTop="@ref/0x7f070642"
        app:layout_constraintStart_toStartOf="0"
        app:layout_constraintTop_toBottomOf="@ref/0x7f0a01c8"
        style="@ref/0x7f1306a6" />

    <TextView
        android:id="@ref/0x7f0a01e7"
```

Exhibit A: Samsung's Infringement of United States Patent No. 8,510,407

```
            android:layout_width="dimension(1)"
            android:layout_height="-2"
            android:layout_marginStart="dimension(1793)"
            android:layout_marginEnd="@ref/0x7f07064e"
            android:labelFor="@ref/0x7f0a08f3"
            app:layout_constrainedWidth="true"
            app:layout_constraintBottom_toBottomOf="@ref/0x7f0a08f3"
            app:layout_constraintEnd_toEndOf="0"
            app:layout_constraintStart_toEndOf="@ref/0x7f0a08f3"
            app:layout_constraintTop_toTopOf="@ref/0x7f0a08f3" />

        <TextView
            android:id="@ref/0x7f0a0a35"
            android:layout_marginTop="dimension(1537)"
            android:text="@ref/0x7f1208c3"
            app:layout_constraintStart_toStartOf="0"
            app:layout_constraintTop_toBottomOf="@ref/0x7f0a01e7"
            style="@ref/0x7f1306a0" />

        <Button
            android:textColor="@ref/0x7f060501"
            android:id="@ref/0x7f0a0192"
            android:background="@ref/0x7f080071"
            android:layout_marginTop="dimension(7681)"
            android:text="@ref/0x7f120850"
            android:key="sign_up_button"
            app:layout_constraintStart_toStartOf="0"
            app:layout_constraintTop_toBottomOf="@ref/0x7f0a0a35"
            style="@ref/0x7f130004" />

        <TextView
            android:id="@ref/0x7f0a0122"
            android:layout_width="-2"
            android:layout_marginTop="@ref/0x7f070642"
            android:text="@ref/0x7f1206c9"
            app:layout_constraintStart_toStartOf="0"
            app:layout_constraintTop_toBottomOf="@ref/0x7f0a0192"
            style="@ref/0x7f1306a6" />

        <TextView
            android:textColor="@ref/0x7f06000a"
            android:id="@ref/0x7f0a05a6"
            android:text="@ref/0x7f12083b"
            android:layout_marginStart="dimension(2049)"
            app:layout_constraintBottom_toBottomOf="@ref/0x7f0a0122"
            app:layout_constraintStart_toEndOf="@ref/0x7f0a0122"
            style="@ref/0x7f1306a6" />

        <TextView
            android:textColor="@ref/0x7f0601c2"
            android:id="@ref/0x7f0a017b"
            android:visibility="2"
            android:layout_width="-1"
            android:layout_marginTop="@ref/0x7f070642"
```

Exhibit A: Samsung's Infringement of United States Patent No. 8,510,407

```
                android:layout_marginStart="@ref/0x7f07064f"
                android:layout_marginEnd="@ref/0x7f07064e"
                app:layout_constraintStart_toStartOf="0"
                app:layout_constraintTop_toBottomOf="@ref/0x7f0a0122"
                style="@ref/0x7f1306a6" />

            <TextView
                android:textColor="@ref/0x7f06000a"
                android:id="@ref/0x7f0a09bd"
                android:layout_marginTop="@ref/0x7f070642"
                android:text="@ref/0x7f1208c4"
                android:paddingEnd="dimension(2561)"
                app:layout_constraintStart_toStartOf="0"
                app:layout_constraintTop_toBottomOf="@ref/0x7f0a017b"
                style="@ref/0x7f1306a6" />

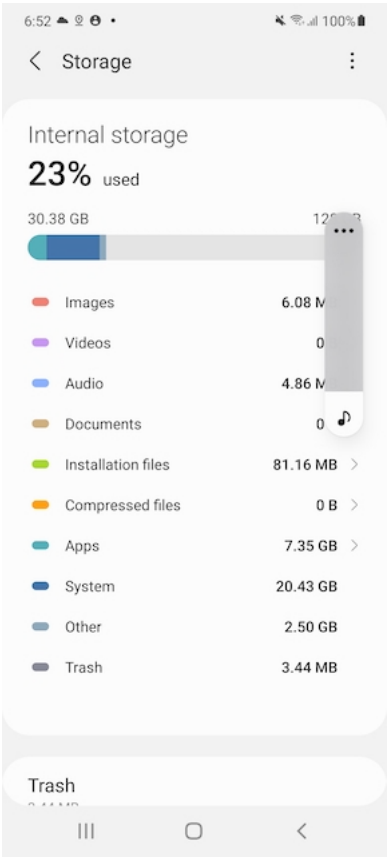
            <TextView
                android:id="@ref/0x7f0a038e"
                android:text="|"
                android:importantForAccessibility="2"
                app:layout_constraintBottom_toBottomOf="@ref/0x7f0a09bd"
                app:layout_constraintStart_toEndOf="@ref/0x7f0a09bd"
                app:layout_constraintTop_toTopOf="@ref/0x7f0a09bd"
                style="@ref/0x7f1306a6" />

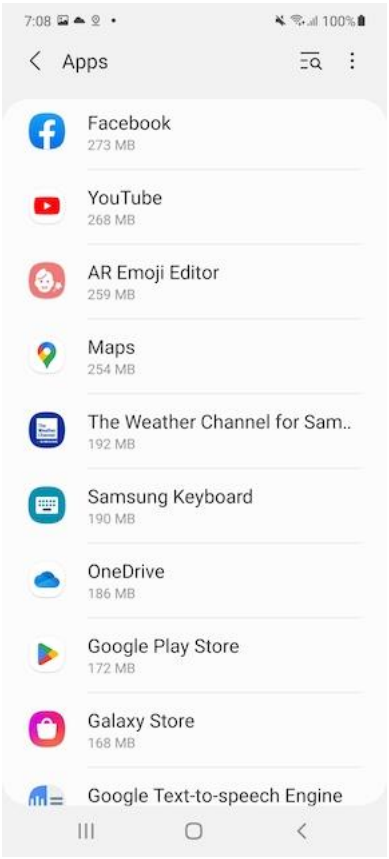
            <TextView
                android:textColor="@ref/0x7f06000a"
                android:id="@ref/0x7f0a0787"
                android:text="@ref/0x7f1208be"
                android:paddingStart="dimension(2561)"
                app:layout_constraintBottom_toBottomOf="@ref/0x7f0a09bd"
                app:layout_constraintStart_toEndOf="@ref/0x7f0a038e"
                style="@ref/0x7f1306a6" />
        </androidx.constraintlayout.widget.ConstraintLayout>
    </ScrollView>

    <ProgressBar
        android:layout_gravity="0x11"
        android:id="@ref/0x7f0a0792"
        android:visibility="1"
        android:layout_width="@ref/0x7f070691"
        android:layout_height="@ref/0x7f070691"
        android:contentDescription="@ref/0x7f1208f8"
        android:indeterminateTint="@ref/0x7f06045f" />
</FrameLayout>
```

Additionally, with regards to s**toring,** by looking into the settings of the Accused Instrumentalities and tapping on Battery and Device Care; then tapping on 'Storage' the electronic storage summary is displayed as shown in the image below left. Tapping on the 'Apps' button displays the storage used for

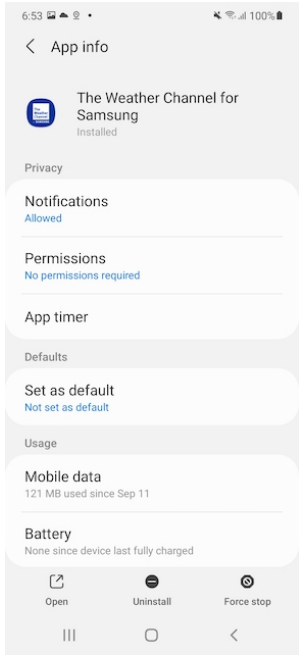
each NIM template. Notice that the Weather Channel for Samsung app uses 192MB of storage after downloaded as shown below right.

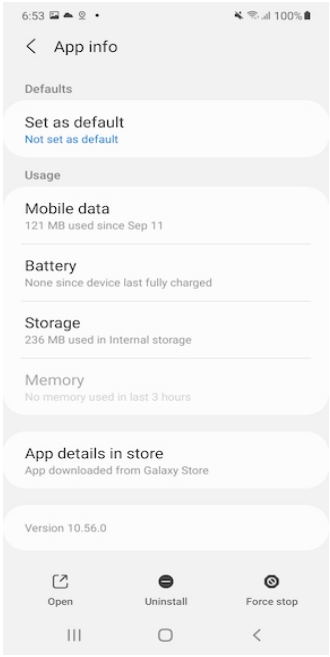




Tapping on the Weather Channel for Samsung app icon from the list in the image above displays additional detail as shown in the two images below (to shown the full scrollable elements of the screen). Note the additional information about storage, including the amount of data downloaded, and the notation "app downloaded from Galaxy Store".

Exhibit A: Samsung's Infringement of United States Patent No. 8,510,407





On information and belief, that Weather Channel for Samsung as well as the relevant data structures including the markup language file are necessarily stored on the electronic storage of the Accused Instrumentalities. Thus, the Accused Instrumentalities includes one or more computer modules configured to store the networked information monitor template to the electronic storage.

Furthermore, on information and belief, code, which is not publicly available, on the Accused Instrumentalities and apps will demonstrate that the networked information monitor template includes a markup language file, and wherein storing the networked information monitor template comprises storing the markup language file. Additionally, on information and belief, all variations of the Accused Instrumentalities operate in the same infringing manner.

Exhibit A: Samsung's Infringement of United States Patent No. 8,510,407

21. The method of claim 13, wherein the time-varying content is received from the web server over the network according to the TCP/IP protocol.	The Accused Instrumentalities meet the limitations of claim 13 for the reasons stated above. The Accused Instrumentalities receive time-varying content from the web server over the network according to the TCP/IP protocol. The Accused Instrumentalities are configured **to receive time varying content**. For example, upon installation of the "Weather Channel for Samsung" app, a splash screen can be seen with the message 'Still waiting for server…' as it loads data to display. 

Exhibit A: Samsung's Infringement of United States Patent No. 8,510,407

	Upon loading this data, the screen shows the time-varying content for the weather based on the current date and for the location of the phone, as shown below. Note 'San Bruno' in the header on the image below left. Tapping on the header displays the current location with an option to set the location to another city or zip code, below right.  

Exhibit A: Samsung's Infringement of United States Patent No. 8,510,407

	Additionally, the Accused Instrumentalities are configured so that the time varying content is **received from the web server over the network according to the TCP/IP protocol.** As discussed above, an test app was generate that pointed to the following location: fennetic.net/irc/finney.org/~hal/home.html Running the App on the Samsung device displays the content as shown below. 

Exhibit A: Samsung's Infringement of United States Patent No. 8,510,407

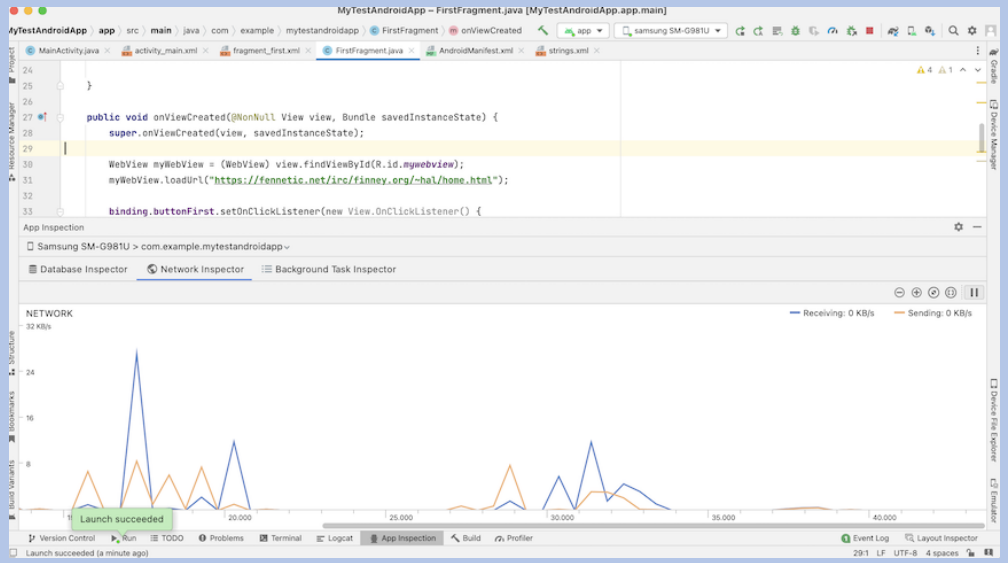
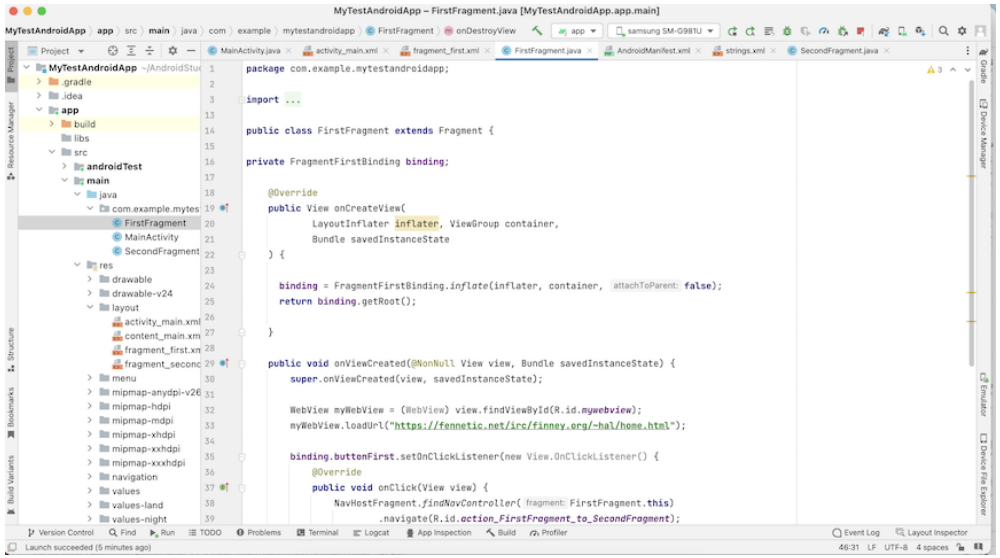
	Monitoring the network traffic during the load of this content reveals that a network request was initiated over TCP/IP and content was received as shown in the image below of the 'Network Inspector' analysis tool which is part of the Android Studio development suite.  Furthermore, on information and belief, code, which is not publicly available, on the Accused Instrumentalities and apps will demonstrate that there are one or more computer program modules are configured such that the time-varying content is received from the web server over the network according to the TCP/IP protocol. Additionally, on information and belief, all variations of the Accused Instrumentalities operate in the same infringing manner.
22. The method of claim 13, wherein the network location corresponds to a	The Accused Instrumentalities meet the limitations of claim 13 for the reasons stated above. Within the Accused Instrumentalities, the NIM Templates have a network location that corresponds to a uniform resource locator (URL). For this example, with the Samsung Test App, created using Android Studio, Android's development environment, there is a simple webview using the following URL:

Exhibit A: Samsung's Infringement of United States Patent No. 8,510,407

uniform resource locator included in the networked information monitor template.	fennetic.net/irc/finney.org/~hal/home.html
	
	This can be seen in this line of code:
	
	`myWebView.loadUrl("https://fennetic.net/irc/finney.org/~hal/home.html");`
	
	This code come from the main portion of the Samsung Test App shown below as the source code and then as shown in the Android Studio development tool.
	
	`package com.example.mytestandroidapp;`
	`import …`
	`public class FirstFragment extends Fragment {`
	`private FragmentFirstBinding binding;`
	
	`@Override`
	`public View onCreateView(`
	`LayoutInflater inflater, ViewGroup container,`
	`Bundle savedInstanceState`
	`) {`
	
	`binding = FragmentFirstBinding.inflate(inflater, container, false);`
	`return binding.getRoot();`
	
	`}`
	
	`public void onViewCreated(@NonNull View, Bundle savedInstanceState) {`
	`super.onViewCreated(view, savedInstanceState);`
	
	`WebView myWebView = (WebView) view.findViewById(R.id.mywebview);`
	`myWebView.loadUrl("https://fennetic.net/irc/finney.org/~hal/home.html");`
	
	`binding.buttonFirst.setOnClickListener(new View.OnClickListener() {`
	`@Override`
	`public void onClick(View view) {`
	`myWebView.loadUrl("https://fennetic.net/irc/finney.org/~hal/web_of_trust.html");`
	`}`
	`});`
	`}`
	`@Override`
	`public void onDestroyView() {`
	`super.onDestroyView();`
	`binding = null;`

Exhibit A: Samsung's Infringement of United States Patent No. 8,510,407

```
        }
}
```

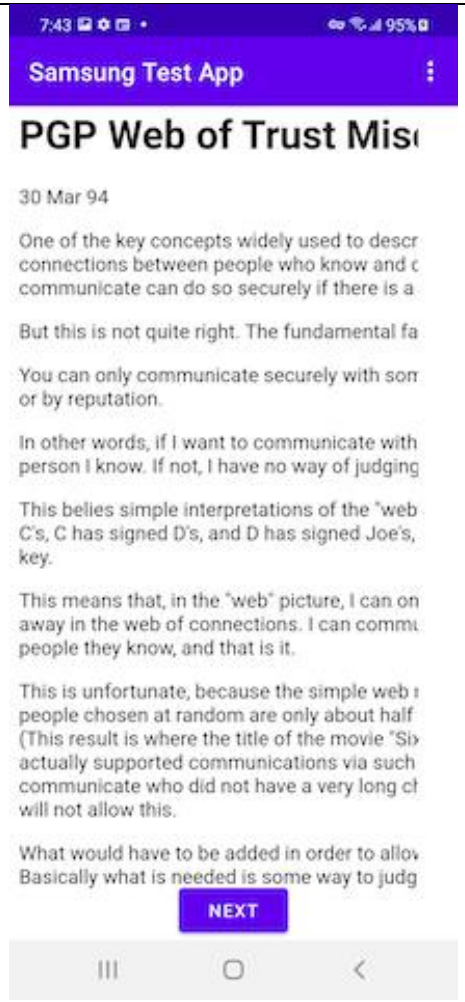


Running the app on a Samsung S20 with Android 11 as shown below, displays the web page for Hal Finney who was a notable computer scientist.

Exhibit A: Samsung's Infringement of United States Patent No. 8,510,407

Clicking on the 'NEXT' button displays a second page from the Hal Finney website based on a URL embedded in the code goes to another page.

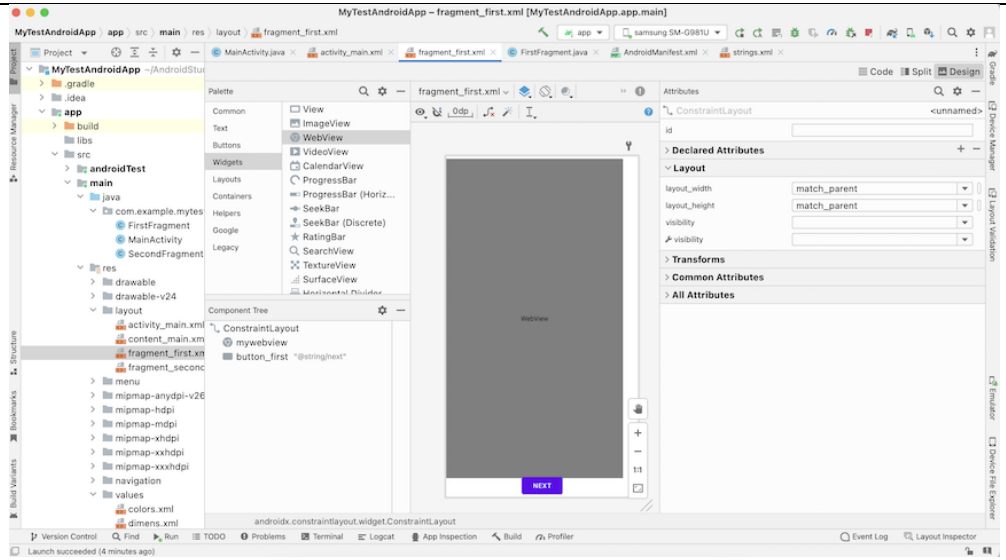
Exhibit A: Samsung's Infringement of United States Patent No. 8,510,407



Additionally, there were modifications to the above app to store the URL within the XML Layout file.

Here is the Layout as seen in the Android Studio development environment:

Exhibit A: Samsung's Infringement of United States Patent No. 8,510,407



And here is the XML created by Android Studio, which contains, the layout of the screen as shown below:

Exhibit A: Samsung's Infringement of United States Patent No. 8,510,407

fragment_first.xml

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".FirstFragment">

    <WebView
        android:id="@+id/mywebview"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:layout_marginTop="5dp"
        android:layout_marginEnd="32dp"
        android:layout_marginBottom="40dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <Button
        android:id="@+id/button_first"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="@string/next"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

The XML also includes strings, which in this example shows the URL for the Hal Finney website.

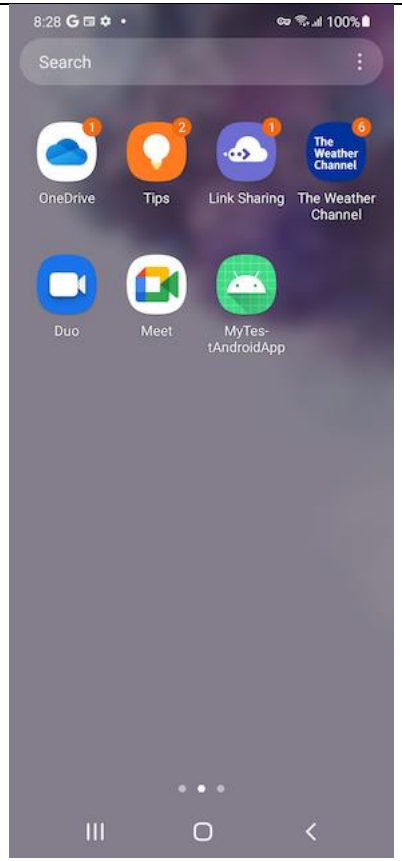
strings.xml

```
<resources>
    <string name="app_name">MyTestAndroidApp</string>
    <string name="action_settings">Settings</string>
    <!-- Strings used for fragments for navigation -->
    <string name="first_fragment_label">Samsung Test App</string>
    <string name="second_fragment_label">Second Fragment</string>
    <string name="next">Next</string>
    <string name="previous">Previous</string>
    <string name="finneyUrl">https://fennetic.net/irc/finney.org/~hal/home.html</string>
    <string name="hello_first_fragment">My Title</string>
    <string name="hello_second_fragment">Hello second fragment. Arg: %1$s</string>
</resources>
```

Exhibit A: Samsung's Infringement of United States Patent No. 8,510,407

	And here is the app when run. Notice the same Hal Finney web page loads based on the URL in the XML file.  The test app ('MyTestAndroidApp'), when installed as shown on the home screen is shown below.

Exhibit A: Samsung's Infringement of United States Patent No. 8,510,407



When the APK is built, the XML layout and other resource files are converted to binary format and stored within the app's bundle, the APK file, which is a zipped archive. A release APK file can be opened within Android Studio to reveal these XML files, as shown in the following images.

Exhibit A: Samsung's Infringement of United States Patent No. 8,510,407

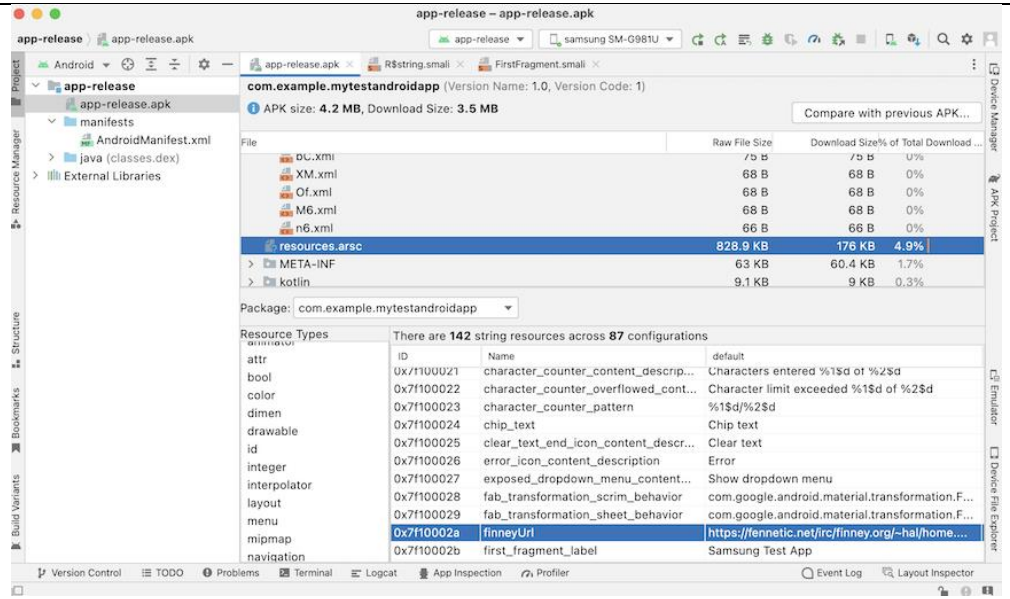


Exhibit A: Samsung's Infringement of United States Patent No. 8,510,407

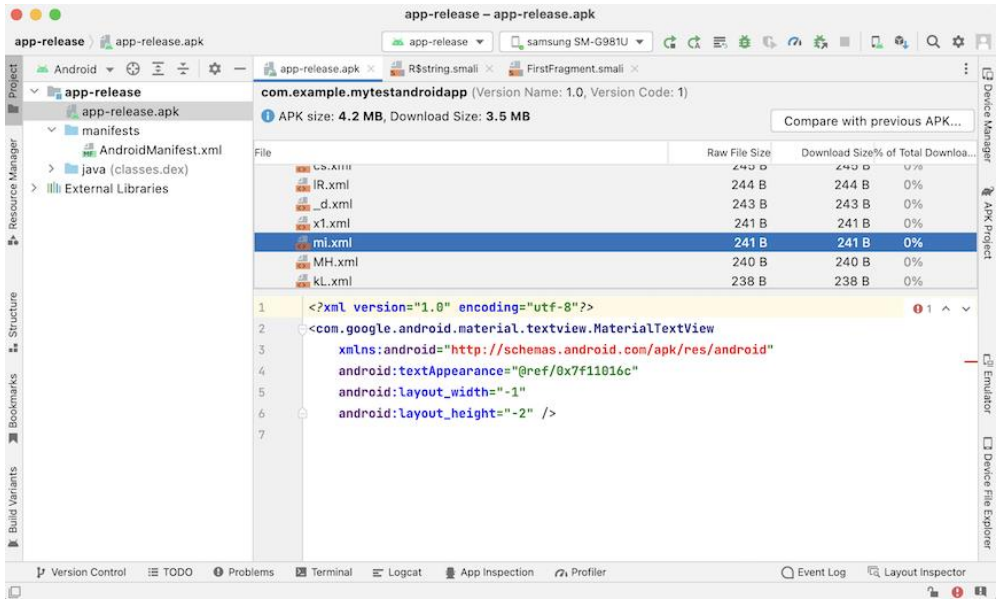
	 References: • https://developer.android.com/guide/topics/resources/providing-resources • https://developer.android.com/guide/topics/resources/layout-resource In Summary, the Samsung Test App shows that there is a network location that corresponds to a uniform resource locator included in the networked information monitor template. Furthermore, on information and belief, code, which is not publicly available, on the Accused Instrumentalities and apps will demonstrate that there is network location that corresponds to a uniform resource locator included in the networked information monitor template. Additionally, on information and belief, all variations of the Accused Instrumentalities operate in the same infringing manner.
23. The method of claim 22, wherein	The Accused Instrumentalities which meet the limitations of claim 22 for the reasons stated above. The Accused Instrumentalities are further configured such that accessing the networked information monitor

Exhibit A: Samsung's Infringement of United States Patent No. 8,510,407

accessing the networked information monitor defined by the networked information monitor template results in transmission of the content request to the uniform resource locator included in the networked information monitor template, and the content request being transmitted according to the TCP/IP protocol over the network.	defined by the networked information monitor template results in transmission of the content request to the uniform resource locator included in the networked information monitor template, and the content request being transmitted according to the TCP/IP protocol over the network. As discussed above, running the test app displays the content as shown below.  Monitoring the network traffic during the load of this content reveals that a network request was initiated over TCP/IP and content was received as shown in the image below of the 'Network Inspector' analysis tool which is part of the Android Studio development suite. The transmission and receipt of the information demonstrates that the Accused Instrumentalities are configured **such that accessing the**

Exhibit A: Samsung's Infringement of United States Patent No. 8,510,407

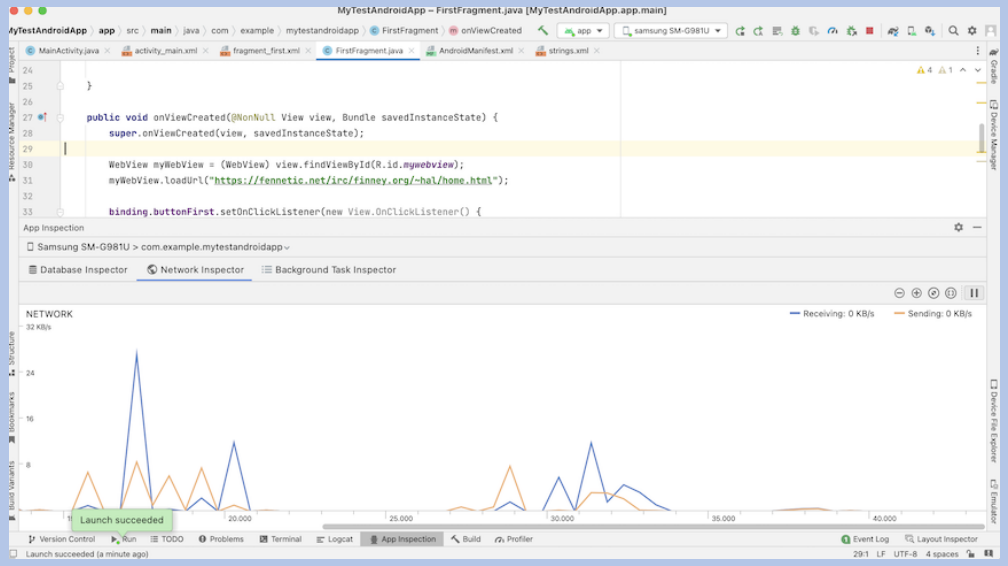
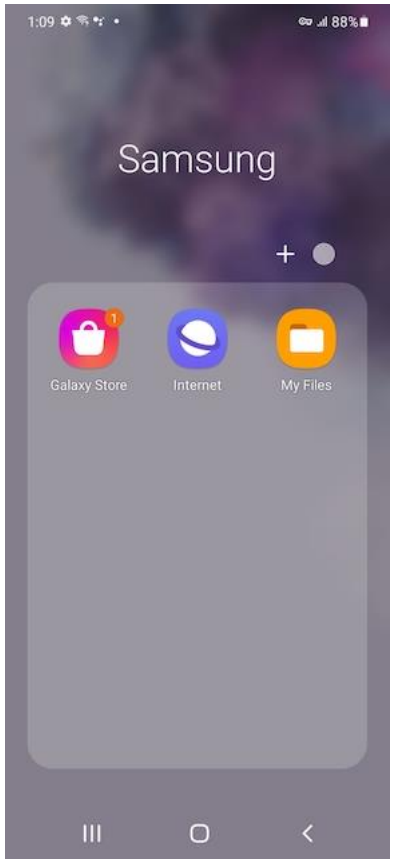
	networked information monitor defined by the networked information monitor template results in transmission of the content request to the uniform resource locator included in the networked information monitor template, and the content request being transmitted according to the TCP/IP protocol over the network. 
24. The method of claim 13, further comprising: prior to storing the networked information monitor template to the electronic storage,	The Accused Instrumentalities employ and provide a method of prior to storing the networked information monitor template to the electronic storage, transmitting over the network to a networked information monitor server, a request for the networked information monitor template. For example, by running the Galaxy Store app and tapping the Galaxy Store Icon: 

Exhibit A: Samsung's Infringement of United States Patent No. 8,510,407

transmitting, over the network to a networked information monitor server, a request for the networked information monitor template; and	This loads the Galaxy Store App as shown below. The Galaxy store comes preinstalled on Samsung Phones as shown below.  From within the Galaxy Store app we search for the term 'weather' which display various weather NIM templates. Scrolling down and the 'Weather Channel for Samsung' app is presented as an option, image below left, which can be clicked on for more details, below right. This provides an 'Install' button as seen below right.

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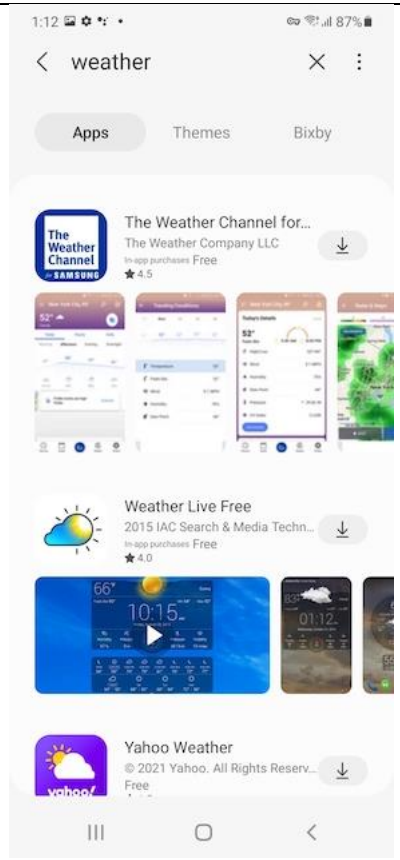

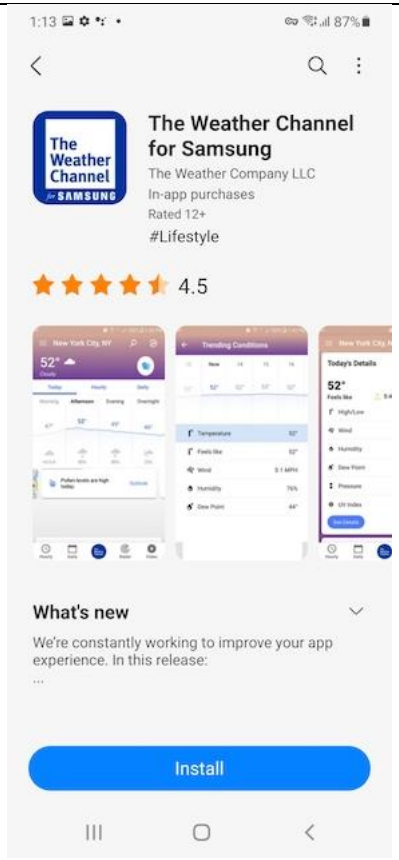

The ability to download and install the Weather Channel app demonstrates that the Accused Instrumentalities includes **one or more computer program modules are further configured to transmit, over the network to a networked information monitor server, a request for the networked information monitor template.**

Furthermore, on information and belief, code, which is not publicly available, on the Accused Instrumentalities and apps will demonstrate that the Accused Instrumentalities are **further configured to transmit, over the network to a networked information monitor server, a request for the networked**

Exhibit A: Samsung's Infringement of United States Patent No. 8,510,407

	information monitor template. Additionally, on information and belief, all variations of the Accused Instrumentalities operate in the same infringing manner.
receiving, from the networked information monitor server over the network, the networked information monitor template.	The Accused Instrumentalities employ and provide a method for receiving, from the networked information monitor server over the network, the networked information monitor template. This is observable by disabling TCP/IP network activity during the install process. Notice that if we enable 'Airplane mode' as shown below, left, which disables the TCP/IP network connectivity of the device, then attempting to install a NIM Template fails. The image below right shows how the install fails with a message "Network unavailable" when TCP/IP is disabled.

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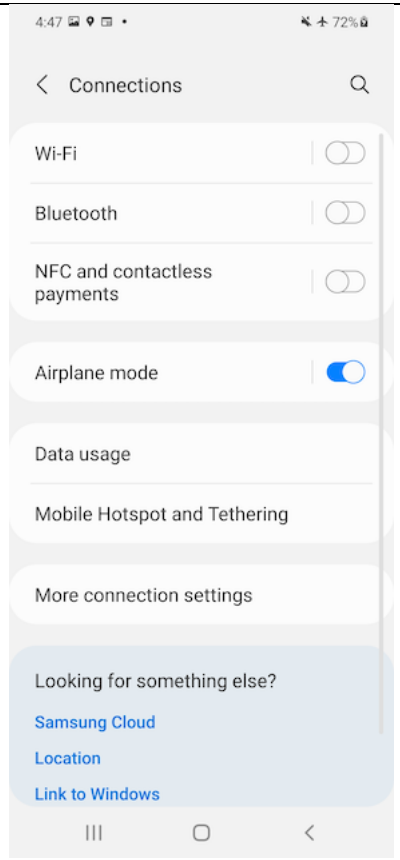

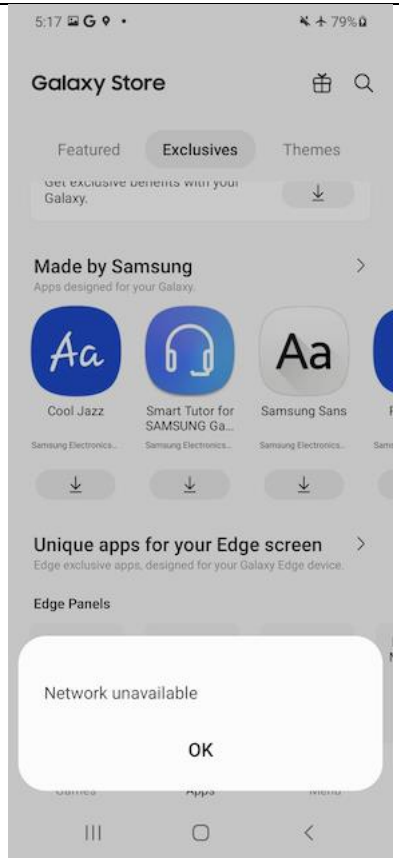

Additionally, following on the example above, upon opening the App after installation, a splash screen can be seen. Note the message 'Still waiting for server…' as it loads data to display, below left. Upon loading the screen shows the weather for the time-varying content based on the current date and for the location of the phone, as shown below right.

Exhibit A: Samsung's Infringement of United States Patent No. 8,510,407

The ability to open the Weather Channel app after installation demonstrates that the Accused Instrumentalities includes one or more computer program modules are further configured to **receive, from the networked information monitor server over the network, the networked information monitor template.**

Furthermore, on information and belief, code, which is not publicly available, on the Accused Instrumentalities and apps will demonstrate that the Accused Instrumentalities are further configured to

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	receive, from the networked information monitor server over the network, the networked information monitor template. Additionally, on information and belief, all variations of the Accused Instrumentalities operate in the same infringing manner.